DOCUMENT RESUME

ED 107 943 CE 004 096

AUTHOR Pascal, Anthony H.; And Others
TITLE An Evaluation of Policy Related Research on Programs for Mid-Life Career Redirection: Vol. II--Major Findings.
INSTITUTION Rand Corp., Santa Monica, Calif.
SPONS AGENCY National Science Foundation, Washington, D.C. RANN Program.
REPORT NO R-1582/2-NSF
PUB DATE Feb 75
NOTE 192p.; For the executive summary, see CE 004 054
AVAILABLE FROM The Rand Corporation, 1700 Main Street, Santa Monica, California 90406 ($7.00)

EDRS PRICE MF-$0.76 HC-$9.51 PLUS POSTAGE
DESCRIPTORS Adult Programs; Adults; Bibliographies; *Career Change; Employee Attitudes; Federal Programs; Foreign Countries; Job Satisfaction; *Literature Reviews; Manpower Needs; Manpower Utilization; *Middle Aged; Occupational Aspiration; Policy Formation; *Retraining; Special Programs; *Vocational Adjustment; Work Attitudes

ABSTRACT

The report evaluates some 300 items of literature dealing with programs for mid-life career redirection. A 20-page introductory chapter presents background information, a general description of target groups, and suggestions for further research in mid-life redirection of careers. Part one, Mid-Life Redirectors: Sources and Opportunities, contains chapters on aspiration and dissatisfaction among workers, training potential among older workers, and using manpower forecasts in career redirection planning, and suggest that as people grow older they tend to seek movement from data- and materials-oriented jobs to people-oriented jobs. Part two, Manpower and Educational Programs: The Experience, contains chapters on government programs, employer-sponsored programs, union-sponsored retraining programs, foreign programs, and special redirection efforts, and suggests that existing education and manpower programs provide many of the components necessary for career redirection. Part three, Synthesis and Implications for Policy, (1) summarizes the lessons from the literature, concluding that the potential for mid-life career redirection in the American work force is virtually untapped; and (2) makes recommendations for policymakers, sketching a spectrum of experimental pilot programs of various scale and coverage, intended to meet the shortcomings of existing programs. Every chapter but one contains a bibliography. (JR)

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AN EVALUATION OF POLICY RELATED RESEARCH ON PROGRAMS FOR MID-LIFE CAREER REDIRECTION:
VOL. II—MAJOR FINDINGS

PREPARED FOR THE NATIONAL SCIENCE FOUNDATION

ANTHONY H. PASCAL DURAN BELL
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WITH CONTRIBUTIONS BY LAWRENCE S. OLSON
AND LINDA L. PRUSOFF

R-1582/2-NSF
FEBRUARY 1975

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The research described in this report was sponsored by the Division of Social Systems and Human Resources, Research Applied to National Needs program, National Science Foundation, Washington, D.C., under Contract No. NSF-C798. The views expressed herein are those of the researchers and should not be ascribed as views of the National Science Foundation.

Published by The Rand Corporation

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PREFACE

This report is an evaluation of the existing literature on mid-life redirection of careers. It was written in response to an announcement issued by the Research Applied to National Needs program of the National Science Foundation, which called for literature reviews on some 40 subjects in the broad fields of human resources problems and municipal systems. Other Rand groups, at the New York City-Rand Institute and in Rand's Washington Office, produced reports on citizen participation in urban affairs and on fire services.[1]

The report is truly a joint effort. Though extensive intergroup consultation occurred during the course of the study, individual authors were responsible for each of the chapters. Our companion report, R-1582/1-NSF, Volume I, *Executive Summary*, is a condensed and abbreviated version of the present volume.

A number of people other than the main authors made important contributions to the report. Chapter 5 is based partly on earlier work by Rand consultant Lawrence S. Olson. Linda Prusoff of Rand's Management Sciences Department lent valuable assistance in organizing, expediting, and amending the report. Robert Klitgaard of Rand's Economics Department reviewed the manuscript and enabled us to make significant improvements in its substance and organization, and Albert Williams, also of the Economics Department, supplied helpful advice. Lynn Dolins, program officer at NSF and the monitor of our project, rendered very valuable suggestions for revising the report and supported our efforts with unflagging enthusiasm and understanding.

We organized a Policy Advisory Committee to help us in making our report relevant to the needs of public officials. Two meetings were held; the advice of committee members proved highly useful. They were:

Allan Cartter
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David Cohen
Center for Educational Policy Research
Harvard University

John B. Davis, Jr.
Superintendent of Schools
Minneapolis

Paul Delker
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U.S. Office of Education

---

[1] R. K. Yin and D. Yates, *Street-Level Governments: Assessing Decentralization and Urban Services*, R-1527-NSF, October 1974; and A. J. Swersey, *Fire Protection* (forthcoming).

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Vice Chancellor for Academic Programs
UCLA

The authors of this report, of course, retain ultimate responsibility for any failings or infelicities that remain.

Foreword

RELATED RESEARCH SUPPORTED BY THE NATIONAL SCIENCE FOUNDATION

This evaluation of policy-related research on mid-life redirection of careers is one of 20 in a series of projects on the Evaluation of Policy-Related Research in the Field of Human Resources funded by the Division of Social Systems and Human Resources in the Research Applied to National Needs (RANN) Program of the National Science Foundation.

A large body of policy-related research on human resources has been created over the last quarter century. However, its usefulness to decisionmakers has been limited because it has not been evaluated comprehensively with respect to technical quality, usefulness to policymakers, and potential for codification and wider diffusion. In addition, this research has been hard to locate and not easily accessible. Therefore, systematic and rigorous evaluations of this research are required to provide syntheses of evaluated information for use by public agencies at all levels of government and to aid in the planning and definition of research programs.

Recognizing these needs, the Division of Social Systems and Human Resources issued a Program Solicitation in January 1973 for proposals to evaluate policy-related research in various categories in the field of human resources. This competition resulted in 20 awards in June 1973.

Each of the projects was to (1) evaluate the internal validity of each study by determining whether the research used appropriate methods and data to deal with the questions asked; (2) evaluate the external validity of the research by determining whether the results were credible in the light of other valid policy-related research; (3) evaluate the policy utility of specific studies or sets of studies bearing on given policy instruments; (4) provide decisionmakers, including research funders, with an assessed research base for alternative policy actions in a format readily interpretable and usable by decisionmakers.

Each report was to include an analysis of the validity and utility of research in the field selected, a synthesis of the evidence, and a discussion of what, if any, additional research is required.

The following is a list of the awards showing the research area evaluated, the organization to which the award was made, and the principal investigator.

1. An Evaluation of Policy Related Research on New Expanded Roles of Health Workers—Yale University, School of Medicine, New Haven, Connecticut, 06520; Eva Cohen.

2. An Evaluation of Policy Related Research on the Effectiveness of Alternative Allocation of Health Care Manpower—Interstudy, 123 East Grant St., Minneapolis, Minnesota, 55403; Aaron Lowin.

3. An Evaluation of Policy Related Research on Effects of Health Care Regulation —Policy Center, Inc., Suite 500, 789 Sherman, Denver, Colorado, 80203; Patrick O'Donoghue.

4. An Evaluation of Policy Related Research on Trade-Offs between Preventive and Primary Health Care—Boston University Medical Center, Boston Univ. School of Medicine, Boston, Massachusetts, 02215; Paul Gertman.

5. An Evaluation of Policy Related Research on Effectiveness of Alternative Programs for the Handicapped—Rutgers University, 165 College Ave., New Brunswick, New Jersey, 08901; Monroe Berkowitz.

6. An Evaluation of Policy Related Research on Effects of Alternative Health Care Reimbursement Systems—University of Southern California, Dept. of Economics, Los Angeles, California, 90007; Donald E. Yett.

7. An Evaluation of Policy Related Research on Alternative Public and Private Programs for Mid-Life Redirection of Careers—The Rand Corporation, 1700 Main Street, Santa Monica, California, 90406; Anthony H. Pascal.

8. An Evaluation of Policy Related Research on Relations between Industrial Organization, Job Satisfaction, and Productivity—Brandeis University, Florence G. Heller Graduate School for Advanced Studies in Social Welfare, Waltham, Massachusetts, 02154; Michael J. Brower.

9. An Evaluation of Policy Related Research on Relations between Industrial Organization, Job Satisfaction and Productivity—New York University, Dept. of Psychology, New York, New York, 10003; Raymond A. Katzell.

10. An Evaluation of Policy Related Research on Productivity, Industrial Organization and Job Satisfaction—Case Western Reserve University, School of Management, Cleveland, Ohio, 44106; Suresh Srivastva.

11. An Evaluation of Policy Related Research on Effectiveness of Alternative Methods to Reduce Occupational Illness and Accidents—Westinghouse Behavioral Safety Center, Box 948, American City Building, Columbia, Maryland, 21004; C. Michael Pfeifer.

12. An Evaluation of Policy Related Research on the Impact of Unionization on Public Institutions—Contract Research Corporation, 25 Flanders Road, Belmont, Massachusetts; Ralph Jones.

13. An Evaluation of Policy Related Research on Projection of Manpower Requirements—Ohio State University, Center for Human Resource Research, Columbus, Ohio, 43210; S. C. Kelley.

14. An Evaluation of Policy Related Research on Effectiveness of Alternative Pre-Trial Intervention Programs—Abt Assoc., Inc., 55 Wheeler St., Cambridge, Massachusetts, 02138; Joan Mullen.

15. An Evaluation of Policy Related Research on the Effectiveness of Pre-Trial Release Programs—National Center for State Courts, 1660 Lincoln Street, Denver, Colorado, 80203; Barry Mahoney.

16. An Evaluation of Policy Related Research on Effectiveness of Volunteer Programs in the Area of Courts and Corrections—University of Illinois, Dept. of Political Science, Chicago Circle, Box 4348, Chicago, Illinois, 60680; Thomas J. Cook.

17. An Evaluation of Policy Related Research on Effectiveness of Juvenile Delinquency Prevention Programs—George Peabody College for Teachers, Dept. of Psychology, Nashville, Tennessee, 37203; Michael C. Dixon.

18. An Evaluation of Policy Related Research on Exercise of Discretion by Law Enforcement Officials—College of William and Mary, Metropolitan Building, 147 Granby St., Norfolk, Virginia, 23510; W. Anthony Fitch.

19. An Evaluation of Policy Related Research on Exercise of Police Discretion—National Council on Crime and Delinquency Research Center, 609 2nd St., Davis, California, 95616; M. G. Neithercutt.

20. An Evaluation of Policy Related Research on Post Secondary Education for the Disadvantaged—Mercy College of Detroit, Dept. of Sociology, Detroit, Michigan, 48219; Mary Janet Mulka.

A complementary series of awards were made by the Division of Social Systems and Human Resources to evaluate the policy-related research in the field of Municipal Systems, Operations, and Services. For the convenience of the reader, a listing of these awards appears below:

1. Fire Protection—Georgia Institute of Technology, Dept. of Industrial and Systems Engineering, Atlanta, Georgia, 30332; D. E. Fyffe.

2. Fire Protection—New York City-Rand Institute, 545 Madison Ave., New York, New York, 10022; Arthur J. Swersey.

3. Emergency Medical Services—University of Tennessee, Bureau of Public Administration, Knoxville, Tennessee, 37916; Hyrum Plaas.

4. Municipal Housing Services—Cogen Holt and Associates, 956 Chapel St., New Haven, Connecticut, 06510; Harry Wexler.

5. Formalized Pre-Trial Diversion Programs in Municipal and Metropolitan Courts—American Bar Assoc., 1705 DeSales St., N.W., Washington, D.C., 20036; Roberta Rovner-Pieczenik.

6. Parks and Recreation—National Recreation and Park Assoc., 1601 North Kent St., Arlington, Va., 22209; The Urban Inst., 2100 M St., N.W., Washington, D.C., 20037; Peter J. Verhoven.

7. Police Protection—Mathematica, Inc., 4905 Del Ray Ave., Bethesda, Md., 20014; Saul I. Gass.

8. Solid Waste Management—Massachusetts Institute of Technology, Dept. of Civil Engineering, Cambridge, Mass., 02139; David Marks.

9. Citizen Participation Strategies—The Rand Corporation, 2100 M St., N.W., Washington, D.C., 20037; Robert Yin.

10. Citizen Participation: Municipal Subsystems—The Univ. of Michigan, Program in Health Planning, Ann Arbor, Michigan, 48104; Joseph L. Falkson.

11. Economic Development—Ernst & Ernst, 1225 Connecticut Ave., N.W., Washington, D.C., 20036; Lawrence H. Revzan.

12. Goal of Economic Development—University of Texas-Austin, Center for Economic Development, Dept. of Economics, Austin, Texas, 78712; Niles M. Hansen.

13. Franchising and Regulation—University of South Dakota, Dept. of Economics, Vermillion, South Dakota, 57069; C. A. Kent.

14. Municipal Information Systems—University of California, Public Policy Research Organization, Irvine, California, 92664; Kenneth L. Kraemer.

15. Municipal Growth Guidance Systems—University of Minnesota, School of Public Affairs, Minneapolis, Minnesota, 55455; Michael E. Gleeson.

16. Land Use Controls—University of North Carolina, Chapel Hill, Center for Urban and Regional Studies, Chapel Hill, North Carolina, 27514; Edward M. Bergman.

17. Land Use Controls—The Potomac Inst., Inc., 1501 Eighteenth St., N.W., Washington, D.C., 20036; Herbert M. Franklin.

18. Municipal Management Methods and Budgetary Processes—The Urban Inst., 2100 M St., N.W., Washington, D.C. 20037; Wayne A. Kimmel.

19. Personnel Systems—Georgetown University, Public Services Laboratory, Washington, D.C., 20037; Selma Mushkin.

Copies of the above-cited research evaluation reports for both Human Resources and Municipal Systems may be obtained directly from the principal investigator or from the National Technical Information Service (NTIS), U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia, 22151 (Telephone: 703/321-8517).

This research evaluation by Anthony H. Pascal, et al. of The Rand Corporation on Mid-life Career Redirection was prepared with the support of the National Science Foundation. The opinions, findings, conclusions, or recommendations are solely those of the authors.

It is a policy of the Division of Social Systems and Human Resources to assess the relevance, utility, and quality of the projects it supports. Should any readers of this report have comments in these or other regards, we would be particularly grateful to receive them as they become essential tools in the planning of future programs.

Lynn P. Dolins
Program Manager
Division of Social Systems
and Human Resources

SUMMARY

This report is based on the evaluation of some 300 items of literature bearing on the topic of mid-life redirection of careers. Its importance stems from the possibility that the next stage in the progress of American social policy may well include a commitment to facilitating second chances for people in the age range from 30 to 55. Both heightened public attention to that possibility, and developments abroad, point in this direction.

Since the literature presents little hard evidence on the need for and desirable structure of a mid-life redirection program, we found it necessary to survey writings in a variety of fields, and of very uneven quality, dealing with such topics as worker discontent, manpower requirements forecasting, retraining methods for adults, manpower program evaluations, and assessments of part-time and continuing education schemes for adults. Our criteria for evaluating the literature were internal validity, external validity, and policy relevance. We sought to answer questions about the scale and intensity of the need for a mid-life redirection program, the nature of the potential clientele, guidelines for designing, operating, and financing possible new programs, and additional research requirements.

We found that although many people aged 30 to 55 say they are discontented with their jobs or would like to embark on new and more interesting careers, surprisingly few actually try to make a change. A fair proportion of the rest are dissuaded by the difficulties of identifying and preparing for satisfying new careers. Others find temporary withdrawal from the labor market financially unmanageable. Discrimination against older workers is a problem in itself and exacerbates most of the other difficulties. All these points tend to justify new public initiatives to support adult career redirection.

On the other side, mature people who change careers often have to make substantial sacrifices in income and status as they jettison the human capital built up over the years in their original callings. That fact is difficult to reverse by programmatic means but it does highlight the responsibility of public agencies to provide accurate information on alternatives.

The clientele for any second chance program would come primarily from three groups: housewives seeking to enter or re-enter the labor market; people involuntarily displaced from their occupations because of obsolescence or economic downturns; and workers who feel frustrated, dissatisfied, or alienated in their work lives. Of the latter, a disproportionate number are in the lower white-collar levels; they tend to have appreciable, though not substantial, levels of educational attainment (high school diplomas, perhaps some college experience). The continuing occupational disadvantage of minority group members makes them prime candidates for redirection as well. Actual redirectors often have experienced the more severe forms of the so-called "mid-life crisis," including divorce, widowhood, departure of family, psychological disturbance, and failing physical powers. In other characteristics, however, they do not appear to differ greatly from the rest of the population.

Put very grossly, people as they age tend to seek movement from data- and materials-oriented jobs to people-oriented jobs. That observation is not very useful, however. Finer-grade analyses are needed—the identification of problem job areas or potential new career opportunities—that the current state of the art of manpower requirements forecasting appears unable to make. More data and different techniques are sorely needed (for example, to project the net demand for particular occupations instead of for broad occupational groups—see below).

Our review of the literature appraising American programs for adults sponsored by government, employers, unions, and educational institutions provided some useful lessons. Redirection schemes should heavily emphasize aptitude diagnosis, provision of realistic job market information, and placement assistance. Instruction, when necessary, should be on-the-job whenever possible and should concentrate on concrete and practical approaches to learning. Courses need to be short and intensive, with flexible hours to accommodate those who need to continue earning. Paraprofessional occupations, particularly in the health field, look promising. Foreign experience reveals the likelihood of cost escalation in retraining programs, and the danger that younger male professionals and managers may tend to monopolize them.

Existing education and manpower programs provide many of the components necessary for career redirection. Potential redirectors, however, continue to find it difficult to assemble the package of services (information, diagnosis, counselling, training, placement) necessary to make a satisfying change, and virtually impossible to finance the sometimes lengthy period of absence from the labor market that retraining calls for. Our report sketches a spectrum of experimental pilot programs that vary in scale and coverage and are intended to meet these problems. We also comment on various alternatives for financing them, including charges to beneficiaries. In the process, a voucher scheme is outlined, and we make suggestions for the evaluation of experimental programs. Some rough cost-estimates for a full-scale program are presented and we briefly explore the possibility of integrating the provision of mid-life occupational education into a scheme of educational drawing-rights to include training of youth, pension rights, unemployment compensation rights, vacation and sick leave accrual, and the like.

Our recommendations for additional research focus on studies to improve occupational training techniques, particularly for housewives and white-collar workers, more disaggregated forecasts of job opportunities, additional surveys of the "market" for redirection services, and comprehensive analyses of the experiences of actual redirectors.

It seems to us that the potential for mid-life career redirection in the American work force is virtually untapped. The dimensions of the problem can be adequately understood only on the basis of findings from systematic research and experimentation, which are not yet available. Our report, we hope, will contribute to the emerging debate on this vital topic.

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Chapter 1

MID-LIFE REDIRECTION OF CAREERS: INTRODUCTION

by Anthony Pascal

> "Without work all life goes rotten. But when work is soulless, life stifles and dies."
>
> —Albert Camus

> "There are no second acts in American lives."
>
> —F. Scott Fitzgerald

BACKGROUND

We began this inquiry with the ideas expressed above. We suspected that the next stage in the progress of social policy in wealthy industrial states might well encompass the granting of second chances to adults wishing to change their careers. That notion appeared to be a natural consequence of several forces: an increasing propensity to express dissatisfaction with the rigid, authoritarian work structures in which many people find themselves; growing resentment by middle-income, middle-aged taxpayers toward the publicly subsidized educational benefits enjoyed by the young, the disadvantaged, and the professional classes; and, as an exacerbating factor, dissatisfaction with the isolation of education from work, of students from jobholders, of theory from everyday application.

Several signals of these new concerns emerged in the early 1970s. They included:

- The establishment of a Special Task Force to the Secretary of Health, Education and Welfare, which submitted a special report entitled *Work in America.*
- The preparation of a report and recommendations by the Carnegie Commission on Higher Education entitled *Toward a Learning Society: Alternative Channels to Life, Work and Service.*
- The establishment by the Social Science Research Council of a Committee on Work and Personality in the Middle Years, which has launched a research-planning operation on these issues.
- The passage in France in 1971 of the *Continuing Vocational Education Act,* which established a publicly guaranteed system of paid sabbaticals for workers as a matter of legal right. West Germany has developed similar programs. (See Chap. 8, "Foreign Programs.")

A common theme permeates these various undertakings. It concerns the ability of affluent societies to open up the tight structures that have traditionally channeled people from standardized educational and training institutions to permanent jobs. The lockstep of traditional occupational preparation and the lock-in of traditional notions of an unvarying work life might now be broken. The envisioned result is a more dynamic, personally satisfying, and adaptive kind of urban industrial society. There is an added possibility of gains in the efficiency with which the economy would then respond to changes in technology, demand, or resource availability, and the equity with which it could allocate opportunities among social classes, ethnic groups, and age cohorts. Some commentators view these gains as equally important; and others view them at least as welcome side-effects. J. R. Gass (1973), for instance, states that "underlying all is the basic social principle that, in highly rationalized democratic societies in which the constraints on freedom came from the economic rather than the political system, the possibility for the individual to allocate his time between the several aspects and phases of his life may be looked upon as one of the prizes of affluence."

To accomplish this, Gass suggests that it is necessary to encourage:

- Paid educational sabbaticals and leaves of absence.
- Restructuring of educational opportunities in favor of adults, with the necessary financial rearrangements.
- More flexible career patterns, especially with regard to apprenticeship and part-time work.
- Social insurance procedures that facilitate the effecting of financial transfers between education, work, leisure, and retirement (Gass, 1973, p. 10).

In our view, a publicly supported system to provide opportunity for mid-life career redirection would include other components as well. This report is primarily concerned with how the extant literature in relevant fields can help policymakers decide whether some new public initiative is desirable and, if so, what shape such an initiative might take. Upon beginning our research, we soon discovered that almost no policy-relevant literature on mid-life career redirection, per se, has been published, because there have been no public programs for enabling such redirection. We were required, then, to survey writings in a number of fields that bear on our topic. We have evaluated materials on job problems and opportunities, on training methods and organizations, and on programs that might be used by (though they may not be designed for) career redirectors. The logic governing the selection and integration of those various literature categories is discussed at the end of this chapter.

The report groups together insights gathered from various domains of professional literature that touch on the subject. Although we originally planned rigorous methodological evaluations, we found that the nature of the literature relevant to mid-life redirection programs (mostly essays, think-pieces, and rather loose descriptions of limited numbers of cases) required unconventional evaluation procedures. A "Mid-Life Career Redirection Literature Review Checklist" was devised to provide a consistent format for assessing the internal and external validity of all relevant studies.[1] The checklist proved inappropriate, however, for many of the literature categories. Those categories abound with largely descriptive, even anecdotal, writings for which it is not germane to attempt judgments of scientific merit. In some few places we have supplemented the literature search with the results of abbreviated statistical analyses of original data bases we came across through the process of the literature evaluations. Our procedure has been to assemble and assess the contributions of various studies to answering the following questions:

- What sorts of people might compose the target constituency for mid-life career redirection programs?

---

[1] A compendium of checklists for many of the literature categories is available to interested readers on request.

- For what sorts of new jobs might programs be prepared?
- What can accumulated experience, as reflected in the literature, tell us about the nature of promising programs in terms of training methods, location of programs, sponsorship, components, ancillary services, and the like?
- Toward what policy recommendations does our evaluation of the relevant literature lead us?

STATEMENT OF THE PROBLEM

To capture our conception of the problem, it may be useful to portray graphically the process of mid-life career redirection, as in Fig. 1. It begins with the obvious starting point for mid-life redirectors: current work of some kind, whether a paying job or unpaid work in the home or in volunteer agencies.

Something then happens to precipitate a shift. It may be simply the pull of another occupation that seems to offer more satisfactory rewards (suggested by the central arrow bypassing the precipitating factors). More typically, the redirector undergoes some change with respect to current employment. The housewife's children leave home and she suddenly finds her energies and talents underemployed. The miner loses his job. An office worker gradually builds up so much dissatisfaction with the work situation that he or she decides to do something about changing it. "Mid-life crisis" implies a more drastic and traumatic kind of decision, often impelled by divorce, widowhood, psychological change, illness, and the like. Finally, some people become so dedicated to a hobby or avocation that they decide to pursue it full-time.

People turning a hobby into a career can skip the subsequent exploratory phase, since they know where they are headed. Most of the others will undertake some kind of exploration. It may range from informal experimentation with alternatives to a formal exploration that involves testing aptitudes and interests with professional help. Again, the exploration may be only partly systematic and consist of gathering information and advice, or involve more systematic consultation with professional vocational counselors. Combinations of these three exploration techniques are possible and indeed to be expected.

In any case, a new career is chosen, at least on a preliminary basis. Some jobs will require a period of preparation, perhaps in the form of schooling: earning a degree, attending vocational instruction classes, taking a correspondence course, or engaging in self-directed study. For other jobs the best preparation is on-the-job training, whether or not it is organized into a formal apprenticeship or internship. For many redirectors, preparation is itself a method of exploration, as shown by the arrow looping back at this phase.

In structured programs, a placement component will come next: the redirector is helped to find a new job, with program resources used to bring job-seeker and employer together. In the absence of an organized placement effort, the career changer finds his own job. Sometimes, of course, the employment will not be permanent, as suggested by the arrow that loops back to "Trial and Error" in Fig. 1.

Later in this volume we suggest various ways by which public intervention can make redirection more efficient and more equitable. The rationale for public inter-

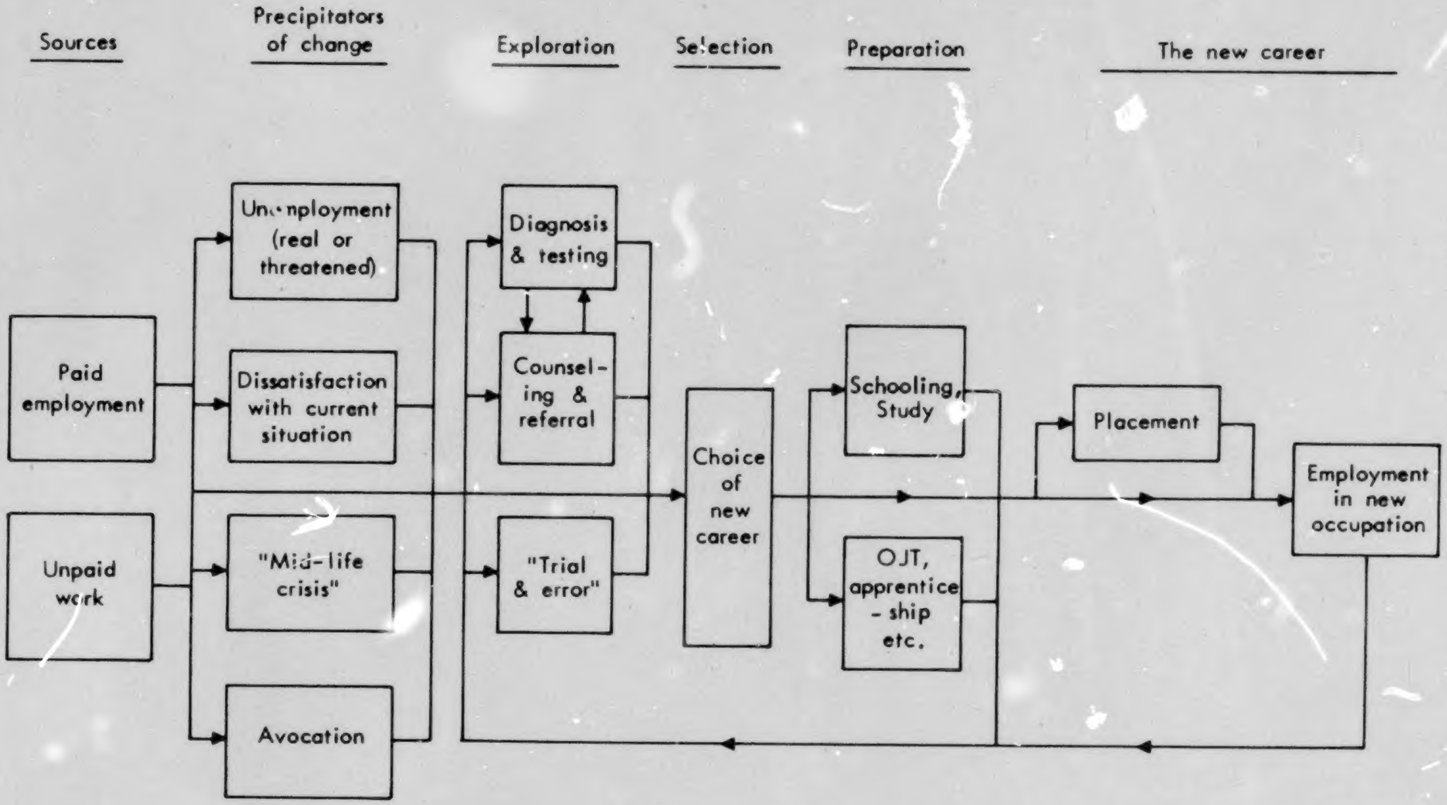
Sources
Precipitators of change
Exploration
Selection
Preparation
The new career
Paid employment
Unpaid work
Unemployment (real or threatened)
Dissatisfaction with current situation
"Mid-life crisis"
Avocation
Diagnosis & testing
Counsel-ing & referral
"Trial & error"
Choice of new career
Schooling, Study
OJT, apprentice-ship etc.
Placement
Employment in new occupation

Fig. 1 — The process of mid-life career redirection

vention is based on the premise that many people deserve assistance on grounds of social justice: the technologically or administratively displaced, housewives who need to support their families, frustrated workers who were unable to take advantage of publicly subsidized career preparation in the conventional sequence. Others need help in times of personal crisis and may have nowhere else to turn. For still others—the bored, dispirited, disenchanted—the knowledge that a second chance is possible without inordinate family sacrifice can be a powerful boost to morale, even if they never exercise their option.

EVALUATION CRITERIA EMPLOYED

The criteria we used for judging an item of literature bearing on mid-life career redirection have to do with the item's internal and external validity and with its policy relevance. By *internal validity* is meant adherence to commonly accepted scientific standards in methodology and interpretation. In that respect we were interested in the sufficiency of the theoretical structure, the appropriateness of models derived, and the adequacy of data, sample sizes, estimation techniques, and the like.

A very large fraction of the items we examined made no pretensions to scientific status and thus could not be evaluated on this criterion. For these, different methods of evaluation became necessary if any insights were to be generated. One procedure we employed called for independent assessment of the same piece by two different staff reviewers. Both were asked to read the piece and from it to derive an operational hypothesis involving the design or conduct of a mid-life redirection program. If the two reviewers could not agree that a particular operational hypothesis, so defined, was derivable from the publication, then that publication's role in our literature synthesis became downgraded.

We used supplementary standards to assess the internal validity of the "softer" literature. First, we asked whether the author showed some recognition of the technical problems of background and intervening variables. Even if he applied no statistical technique to adjust for, say, the initial characteristics of trainees or mid-course changes in the business cycle, he ought to demonstrate an awareness that these, along with training inputs, do influence the post-training outcome. A second standard has to do with the amount of hard-headed practicality the author demonstrated. Did he simply assume that all applicants are highly motivated, that all teachers are effective, that good curricula are available, that decent child-care facilities exist, or did he, in arguing his case, evidence an awareness of the real-life failings of people and institutions? The more realistic the assumptions, the more valuable the message of the piece.

Certain other questions also were applied to each study reviewed. For example: Were the conclusions based on examination of a large number of cases? Did the study employ the range of variables common to others in the field? Do the author's affiliation, past record, and method of argument suggest objectivity (as opposed to special interest pleading)? The more positive the answers, the higher the reviewer would rank the particular study. And the higher the combined ranking score accorded a given study, the more it counted in the eventual synthesis.

When we judge the *external validity* of a study, we ask whether its conclusions accord with the general tenor of findings presented in other studies in the same field. Where they do not, we must ask whether the departure is attributable to some explicitly considered difference in context or treatment or target group. A particularly good signal of the external validity of a study was the frequency with which it was cited in the literature.

External validity checks are much more straightforward when standardized study designs are employed, and especially where the findings are expressed in quantitative terms. Thus, projections of manpower needs and evaluations of skill training programs were relatively simple cases for the application of the external validity check.

Studies that examined job dissatisfaction and desire for career redirection occupied a middle ground: procedures are more or less well defined but the phenomena being measured are attitudes and aspirations, and sometimes the acting out thereof, rather than labor coefficients or wage rates. Where possible, in appraising studies in this field, we attached more weight to those which measured people's behavior as compared with those that merely recorded stated intentions.

In other fields, the ground rules for assessment are almost as amorphous as they were in the case of internal validity checks. Once more, the device of independent reviewers proved necessary. Here the reviewers were asked to rank individual studies in terms of persuasiveness of logic, demonstrated sensitivity to contextual factors, and apparent comprehensiveness of observation.

A study has *policy relevance* when its conclusions are transformable into guides for action. Because findings that suggest changes in public or private programs hold special interest, we were drawn largely toward empirical literature (and away from the merely theoretical); in particular, we found it valuable to concentrate on evaluations and on reports about demonstrations and experimental programs. To assist in making our report responsive to the interests of policymakers, we assembled a Policy Advisory Committee, whose members reviewed preliminary materials and offered advice on promising directions. (See Preface for their names and affiliations.) Two meetings were held with members of the Committee during the course of our study. They proved exceedingly helpful in orienting our work toward the exploration of real-world problems and opportunities.

SOME BASIC DEFINITIONS

Before beginning to describe what was learned from our evaluation of the literature, it will be useful to review the working definitions adopted for the various terms that are central to our inquiry. The major terms are found in the title of this report.

Mid-Life

We believe that the age group of most interest here spans the years from 30 to 55. Both cutoff points are necessarily arbitrary, though defensible. By their late twenties, most people have completed their conventional education, whether it be formal professional schooling or on-the-job learning. By 30, the vast majority have settled into lines of work they consider their permanent occupations. By 35, they have had a fair sample of the consequences of their career choices, and probably have a good idea of what the next thirty years will offer in terms of advancement, satisfaction, challenge, prestige, and so forth. (See Social Science Research Council, 1973-74, p. 22.) The late thirties are also the period when many housewives consider entering or reentering the labor force, as their children enter school and other household responsibilities diminish.[2]

The specter of involuntary career change becomes most threatening at about age 45. Certainly by then, many jobholders have amassed a substantial investment in the skills and knowledge valuable to their chosen occupations. People fear to forgo the returns this human capital generates, and fear it all the more if they are aware that new employers or training supervisors in the same field, and even moreso in other fields, regard younger people as better investments because they represent longer payoff periods. Clopton (1973) has come to similar conclusions in defining the characteristics of career changers about whom he collected data. He too chose 30 as the lower limit and 55 as the upper. The adult education literature tends to settle on the thirties as the onset of maturity. Before that, people are still first-time learners. (See, for example, Johnson and Rivera, 1965, pp. 33-70 and 163-187.)

For this report we chose 55 as the upper boundary mostly to distinguish mid-career changers from early retirees, who tend to search for ways to enrich their retirement years, both economically and culturally perhaps, but are not primarily concerned with a new and central vocation. In this Clopton (p. 29) and Hiestand (p. 11) tend to agree. On the other hand, permitting the span to extend into the fifties allows us to include people in a wide variety of public sector occupations such as the armed forces and the protection professions who do, in fact, retire in their prime and are often interested in new full-time jobs that absorb their full attention. (See, for example, Sharp and Biderman, 1968.)

Career

The general notion conveyed by the term "career" is an orderly and systematic progression of jobs within a given occupation leading upward, usually to some desired position of responsibility and challenge. According to Wilensky (1961), it describes a "life plan" within which persons are able to integrate themselves into a stable and rewarding set of social roles. The Social Science Research Council's Committee on Work and Personality in the Middle Years defines career as "a serious and fully engaging commitment. The person develops a sense from her own activities, confirmed by feedback from others, that she is clearly competent in the direction of her new commitment. . . ." (1973-74, p. 28). This is no doubt overly idealized as a description of lines of work actually pursued by the people interested in redirection programs. Many will have jobs as operatives or artisans, some will hold lower-level white-collar positions, and many women may be involved in unpaid housework for their own families. Often these people might aspire to jobs that would not fit the classic definition of "career" but would instead be simply different and more interesting.

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[2] Hiestand (1971) titled his book *New Careers After Thirty-five*. He states his rationale for selecting this boundary on p. 11:

> One may ask why the age of thirty-five is used as the criterion for "middle age." For most purposes, an individual who is thirty-five years old is not quite middle-aged. Most people, however, have completed their education and have established their careers or positions in work, their homes, and their families by age thirty-five. To be sure, establishment in a career or job does not always follow immediately upon completing college or graduate school. Each year, a certain number of graduates reenter school after a year or more of employment because they have decided that the field they originally selected will not provide a satisfactory career for them. Others shift their fields without having made what appears to be a firm choice of occupation by age thirty-five. There is no doubt in the minds of most college or university students that a student aged thirty-five is "older." Since the occupational lives of some professionals last from, say, twenty-five to sixty-five, occupational old age must start at about fifty or fifty-five. Indeed, by some definitions, anyone over forty-five is an "older" worker. In this light, thirty-five years of age seems to be a reasonable dividing line, not young with regard to a future career and relatively old for admission as a student.

In short, all sorts of jobs may constitute the origins and even the destinations of our subjects. The term "career" appropriately carries the suggestion, however, that the changer engages in a process of thoughtful planning as he or she explores alternatives, chooses a new occupation, and prepares for it.

Redirection

Redirection is the most difficult term of all to define. Certainly, it implies a change of occupation and not merely improvement of existing skills or upgrading of credentials for the same line of work. It is important to make this distinction because we want to exclude from the concept of redirection that normal and ordinary progression to be found in many jobs: pool typist to secretary, operative to foreman, salesperson to manager. Other progressions are more striking but still in the realm of established practice, such as a teacher's becoming a school administrator or a lawyer's becoming a judge. Some people can make radical progressions within a given industry or activity, however, that should be covered by our concept. Examples might be the laboratory technician who becomes a physician, the college professor who goes into textbook publishing, or the housewife who opens a catering business.

Several metaphors of redirection have been proposed. Hiestand (1971), for example, gauges a change in terms of a (symbolic) number of degrees of shift it represents from the original job. He distinguishes the 45-degree turn (a public health nurse who returns to school to become a social worker, a naval officer who teaches in technical schools who, on retiring, earns a Ph.D. and a college professorship) from the 90-degree turn where there is virtually no connection with the beginning activity (Paul Gauguin and Ronald Reagan).

Hiestand also notes the kind of career change that is more aptly represented by a gentle curve than a sharp angle. This notion covers the person who hangs on to the original job while preparing for the new departure. The changer may even work part-time in the new calling while retaining some employment in the old. Avocations that develop into new vocations might also be included among these gradual changes. The system of recurrent or continuing education facilitates these sorts of gradual but distinct changes.

In a review of the literature on mid-career change, Carol H. Kelleher divided the changers into two groups: those who were pushed out of their occupations and those who were pulled out. (Kelleher, 1973.) The first groups would include the airline pilot beyond flying age, the retiring policeman, fireman, or armed serviceman, the engineer displaced by cuts in government procurement, the machinist whose job disappears as a result of automation. People are pulled into new careers by expanding opportunities, higher pay or status, more challenge, or more security. A middle group desires change for its own sake—to do something new and different.

In Chapter 3 below, Bell develops another approach to the measurement of the magnitude of career change. He maintains that the magnitude is a function (form not disclosed) of two things: the change in status experienced in making the shift and the cost of preparing for the new career (fees, time, forgone income).

Again, the deliberations of the Committee on Work and Personality in the Middle Years (Social Science Research Council, 1973-74) shed some light on the definitional problem. They state that (p. 36):

> Despite the attention in the popular press, in fiction, and in personal memoirs of voluntary second careers there is next to nothing in the form of social science investigation of this category of persons. We do not know the numbers involved, although it is hypothesized that the frequency is increasing—or is it only that it is getting more attention: we have no trend data. We do not know, either, the demographic characteristics of those who shift careers, although common sense would tell us that these career shifts are facilitated if one has money, but whether there are systematic differences as, say, between the legal profession or the business world is not known.

TARGET GROUPS

Our first discovery in reviewing various contributions that touch on the question of adult vocational redirection was that, for people in their middle years, there is not a great deal of the kind of voluntary occupational change we have labeled mid-life redirection. For the vast majority of people, however bored, or frustrated, or limited they might feel by their current jobs, the prospect of making a substantial change is simply too daunting. Financial responsibilities, fear of the unknown, social pressures to continue in the established groove, disinclination to engage in serious study after years away from school—all contribute to keeping the number of shifters small.

Even though about 40 percent of labor force workers surveyed claim they give serious thought to changing their jobs (Bell, 1974), only about 19 percent of Americans between 18 and 60 who are not full-time students claim an interest in vocational learning for the purpose of job change, and only about 6 percent have actually engaged recently in such study (Carp et al., 1974). Clearly, of course, thousands of people negotiate major changes in their careers without passing through formal educational institutions en route, or contemplate doing so. According to a Bureau of Labor Statistics survey, for example, of the 70 million Americans at work in January 1966, about 5½ million were in an occupation different from the one they followed in January of 1965. (Saben, 1967.) Through interviews with blue-collar workers, Sheppard (1971, 1972) found that about 35 percent were career redirection candidates, at least as revealed by their achievement, aspirations, and desires for autonomy.

A large number of adult Americans are in fact enrolled in formal courses of education in schools, colleges, and vocational training institutions. The October 1972 Current Population Survey revealed that 1.5 million Americans over 35 were enrolled in courses designed for career development and professional advancement (Young, 1973). Excluded were persons whose primary interest was cultural or recreational. Not all of these people are interested in career redirection, though it is reasonable to surmise that a significant fraction must be, given their ages. Table 1 gives a breakdown of adult enrollees by type of school, and Table 2 provides details on the age, race, and sex of the students.

Table 1

PERCENTAGES OF "CAREER CHANGE" STUDENTS 35 AND OVER IN VARIOUS TYPES OF SCHOOLS

Sex and Race	Elementary and High School	College		Trade or Vocational School
		Full Time	Part Time	
Both sexes	7	9	45	39
Men	6	11	41	42
Women	7	7	49	37
White	5	8	48	41
Nonwhite	21	14	40	25

SOURCE: Young, 1973.

Table 2

EMPLOYMENT STATUS OF "CAREER CHANGE" STUDENTS 35 YEARS OLD AND OVER BY AGE, SEX, AND RACE, OCTOBER 1972

(In thousands)

Sex, Age, and Race	In School			
	Total	Labor Force		Not in Labor Force
		Number	Percent of Total in School	
Both sexes, total	1458	1105	76	353
35 to 39 years	545	415	76	130
40 to 44 years	348	262	75	86
45 to 49 years	246	190	77	56
50 to 54 years	156	127	81	29
55 years and over	163	111	68	52
Men, total	710	640	90	70
35 to 39 years	318	295	93	23
40 to 44 years	158	148	94	10
45 years and over	234	197	84	37
Women, total	748	465	62	283
35 to 39 years	227	120	53	107
40 to 44 years	190	114	60	76
45 years and over	331	231	70	100
White	1289	968	75	321
Nonwhite	169	137	81	32

SOURCE: Young, 1973.

Our conclusions as to the frequency of interest in career change by adult Americans are borne out by an analysis we were able to perform on a set of interview data collected by the Western Office of the Educational Testing Service (Carp, 1974). A stratified and weighted random sample of about 3900 Americans between 18 and 60 who were not full-time students were asked about their interest and involvement in further learning for the purpose of changing career. Table 3 breaks down their answers by selected demographic, socioeconomic, and geographic characteristics of the respondents. It reveals that even though about 19 percent of all respondents were interested in such learning, and that about 5 percent had engaged in it, both interest and participation declined markedly with age. Note also that blacks are much more likely than whites to express interest in job-change learning, and are almost three times as likely to have engaged in courses of study. How much of this interracial difference is due to the lower age structure of the black population is unknown.

The substantial involvement of single people is again probably a function of their ages, but it is interesting to note the high levels of interest among the widowed and divorced. This is probably a result of two factors: the need of divorced women to find renumerative employment, and the often-noted phenomenon in which desire for career change accompanies an alteration in marital status. (See below in this chapter, and especially Clopton, 1972.)

In general, interest in career-change learning falls off with educational attainment; although the very lowest attainment class scores quite low. Note, however, the relatively frequent participation by the attainment category "Some post-secondary." A possible echo of this effect can be detected in the strong interest and participation displayed by the occupational class "Clerical and Sales" (though the "Skilled" also score high). These two observations point to the possibility that the clientele for mid-life redirection programs will be found disproportionately among white-collar workers with above-average educational attainments, rather than among assembly line operatives or the professional-manager-proprietor category. Many of the clerical and sales class will be women, as we observe when we compare housewives and nonhousewives. Part-time workers also evidence high levels of involvement, though perhaps because of their relative youth.[3]

The regions are not widely dissimilar, though the Northeast seems to lead. Urban dwellers exceed rural in both interest and participation. These effects may be a consequence of the superior educational opportunities available in some areas.

To highlight the characteristics of the age group of interest, we extracted from the ETS data the group of people who fell within the mid life age boundaries and who were either interested or engaged in job-change learning. Table 4 provides information on the characteristics of this group. Inspection reveals that although males predominate among the "interested," the reverse is true among the "engaged," probably because women in this age range tend to have more free time. The racial breakdown for "engaged" is probably not trustworthy. (There were less than 75 blacks in the 35-to-54-year-old group of respondents that were engaged in learning; none of these indicated "job change" as an important reason for that engagement.)

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[3] ETS also collected data on the income of respondents. We have not reported these findings because, on reflection, the figures seemed highly unlikely.

Table 3

ADULT AMERICANS' INVOLVEMENT IN LEARNING FOR THE PURPOSE OF JOB CHANGE, BY SELECTED CHARACTERISTICS, 1972

Characteristic	Total	Percent Who Are:		
			Involved	
		Not Involved	Interested	Engaged
All respondents	3910	76	19	5
Sex				
Male	1877	73	21	6
Female	2033	78	18	4
Age				
18-24	690	56	30	14
25-29	561	70	24	6
30-34	461	73	24	3
35-44	845	81	17	2
45-54	883	84	12	4
55-60	460	95	4	1
Race				
White	3401	78	18	4
Black	391	58	31	11
Marital status				
Single	477	47	37	16
Married	3149	80	16	4
Widowed, divorced	284	63	32	5
Formal schooling				
1-8 years	600	83	15	2
9-11 years	776	70	26	4
12 years	1553	73	23	4
Some post-secondary	531	70	19	11
College graduate +	449	80	12	8
Occupation				
Unskilled, semiskilled	976	70	25	5
Skilled	587	72	21	7
Sales, clerical	665	68	24	8
Small business	273	86	10	4
Professional, large business	312	81	13	6
Female				
Housewife	782	84	14	2
Nonhousewife	1056	73	21	6
Job status				
Full-time employee	2194	74	21	5
Part-time employee	359	70	19	11
No job	1356	75	19	6
Region				
Northeast	890	72	21	7
North Central	1122	79	16	5
South	1316	74	22	4
West	571	76	18	6
Type of place				
Urban	2893	74	20	6
Rural	1017	80	18	2

SOURCE: Carp, 1974.

Table 4

CHARACTERISTICS OF PERSONS 35 TO 54 YEARS OLD INVOLVED IN LEARNING FOR THE PURPOSE OF JOB CHANGE

(In percentages of all such respondents)

Characteristic	Interested	Engaged
Sex		
Male	61	37
Female	39	64
Race		
Black	7	0
White	93	100
Education		
Less than high school	48	13
High school diploma only	36	44
More than high school	16	43
Occupation		
Unskilled, semiskilled	20	5
Skilled	17	21
Sales, clerical	16	18
Small business	8	5
Professional, large business	8	20
Housewife	24	31
Other	7	0
Job status		
Full-time employed	39	42
Part-time employed	13	19
No job	48	39
Region		
Northeast	20	21
North Central	27	23
South	40	28
West	13	28
Type of place		
Urban	74	91
Rural	26	9

SOURCE: Carp, 1974.

NOTE: Both Interested and Engaged are subsets of this sample (N_w = 643), but with substantial overlap.

The "interested" group is weighted toward the low end of the educational scale, but the more highly educated are more likely to be "engaged," probably because educated people are more at ease with educational institutions. This finding may well suggest, however, that the poorly educated but "interested" constitute a potential and as yet untapped clientele for the proper kind of career redirection program.

The small sample size makes reliability of the distribution by occupation suspect, but there is a notable prominence of housewives in terms both of interest and engagement. Middle-income groups (Skilled, Clerical, Sales) constitute a third or more of those involved with job-change learning. The needs of the unskilled and semiskilled seem least well met, with 20 percent expressing an interest and only 5 percent engaged in learning for job-change purposes.

The geographic distributions indicate that the South and rural areas in general contain shares of the interested that far exceed their shares of the engaged. This again is crude evidence of an unexploited market for the right program.

The voluminous literature on job discontent and career aspiration was surveyed by Bell (Chapter 2 below). He found that, first, surprisingly few people, usually less than 20 percent, directly express dissatisfaction with their work. Even 57 percent of unskilled workers state they would prefer doing the same thing if given a second chance. Contentment tends to rise with job status, though the lower white-collar groups (clerical, sales) stand out as dissatisfied, thus reinforcing the conclusions of the ETS survey mentioned earlier. Other researchers find high levels of discontent among engineers, especially those engaged in routinized, repetitive activities (e.g., Robinson, 1966). Bell also deals with the complex connection among job satisfaction, occupation, and desire to change jobs. The more discontent, the more desire to shift; but people with low skills seem also to be resigned to their condition, perhaps because they see little prospect of changing it. Thus, low-status occupations have fewer than average potential redirectors.

Age is related to job satisfaction in a nonlinear fashion; dissatisfaction increases up to 30, falls off, and increases again at mid-life, say 45. Whether the earlier leveling off is due to people's finding the right slot or to increasing submissiveness with advancing age is still a topic of debate among students of the subject. Nor is there yet any clear answer on whether there is a generational effect on job satisfaction—that is, whether each succeeding cohort of workers demands more satisfying working conditions and becomes more dissatisfied than its predecessors because working conditions actually change little, by and large.

Much of the literature on job discontent and career change focuses on the so-called mid-life crisis. Several phenomena are traditionally associated with middle age, including menopause and diminution of household responsibilities for women, career plateaus and failing physical powers for men, and a now-or-never impulse for both. Those factors, combined with longer working lives, technological change, affluence, and the influence of less "up tight" younger people, are alleged to produce a growing number of people who not only contemplate making important changes in their working lives but actually try to do something about it.

Clopton (1972), in an interesting study (though marred by the way in which both the experimental and control samples were selected), could in fact find nothing that statistically differentiated what he called career shifters and career persisters, except that the shifters displayed somewhat more evidence of the mid-life crisis syndrome. Interviews and psychological tests were administered to a group of married men between 30 and 55 who had entered graduate or professional schools with the object of effecting major career changes (e.g., accountant to school psychologist, civil servant to historian, machinist to vocational educator). The control group was made up of men in the same age group who had seriously considered but had taken no steps toward career change. Clopton expected to find that shifters and persisters would differ markedly in terms of such psychological attributes as need for achievement, self-esteem and self-mastery, wide career interests, impulsivity, and death anxiety. He also expected that shifters would have experienced more childhood instability and would have received greater moral and financial support in accomplishing the change. Statistical investigation revealed, however, that only in terms of histories of marital instability and experience of psychotherapy (both more prevalent among shifters) did the two groups differ. In *all* other respects the differences between the groups were not significant or the wording of interview questions was found to be sufficiently ambiguous that the replies could not be properly analyzed. Whether this finding results from Clopton's weak experimental design, or from the inadequacy of personality tests, or, as he claims, from the primitive state of the psychological theory of career development, it seems to accord with other writings that find career changers to be fairly indistinguishable from nonchangers.

That Clopton's changers displayed those other signs of mid-life crisis is an interesting conclusion, however. It is echoed in the report of the Committee on Work and Personality in the Middle Years. They maintain that ". . . this period brings a dozen or so major life challenges certainly as demanding as those of earlier years, and it is a time of possibly sweeping personality changes." (Social Science Research Council 1973-74, p. 6). And in the words of a British observer, "we are led to conclude that only where some unsettling factor exists in the individual's equilibrium with his environment does continuing education become again a matter of urgency during middle and later maturity." (Belbin, 1972, p. 74.)

There is little doubt that the 90-degree voluntary career change—or even the 45-degree change, or the avocation-to-vocation pattern—is a very substantial undertaking that requires courage, self-discipline, and a family willing to forgo much of the income and attention of the changer. Consequently, Belbin finds only a small number of voluntary trainees over 40 in all countries engaging in reemployment training. (See also Chapter 8 below.) Those who enter retraining schemes have high dropout rates. The largest group of adults in vocational courses comprises those who have very recently completed their educations—people from 25 to 34 years old. This is supported by the experience of France and West Germany and indirectly by enrollment figures from Britain's Open University. Not only the relatively young but also trained professionals such as schoolteachers, civil servants, and engineers, seek a rather standardized degree-based upgrading or credentialing and tend to monopolize open-access, continuing, and media-based higher educational opportunities. (See Chapter 9, "Special Redirection Efforts.")

THE FATE OF REDIRECTORS

A very large fraction of changers are likely to drop in both income and status. Roberts (forthcoming) surveyed 40 professionals and businessmen who admittedly "dropped out"—adopted a counterculture life style in the process of changing careers—at an average age of 42, and discovered that they fell from an average salary of $15,000 to $4000!

Dyer (1973) conducted a parallel study of involuntary white-collar career changers: a group of 115 middle-aged managers and engineers in the Los Angeles area who had lost their jobs. The sample was selected from the rolls of a self-help agency for unemployed executives. Their average age was 51; most had at least an A.B. Table 5 records the changes they underwent in their redirection. Engineers and the highly paid were the groups suffering the worst proportional declines in salary.

Table 5

BEFORE-AND-AFTER COMPARISONS FOR INVOLUNTARY MID-LIFE CAREER CHANGERS

Occupation and Salary	Before Job Change	After Job Change
Managers	66%	46%
Engineers	30%	15%
Self-employed	1%	9%
Mean average salary	$18,000	$15,900
In aerospace	43%	14%
In finance and services	5%	20%
In wholesale and retail trade	6%	13%
In large firms (over 1000 employees)	53%	19%
With small employers (fewer than 50 employees)	10%	43%

SOURCE: Dyer, 1973.

Reductions in job satisfaction were not nearly so prevalent as reductions in salary and status, however. Many found they had more "opportunity for advancement" and "opportunity to make a worthwhile contribution" in their new, generally smaller companies. Many did complain, however, about inability to utilize their skills fully, and about lower pay and less security. The new companies appeared to be considerably less stable. These displaced white-collar workers had considerable trouble in finding subsequent employment. Only about one-fourth found new jobs within three months; half were unemployed six months or more. Very few seemed willing to leave the Los Angeles area (Dyer, 1973).

We were able ourselves to perform some analysis on the characteristics of people who have actually changed occupations or careers. These were men between 45 and 54 who were interviewed as part of the 1966 National Longitudinal Survey of Work Experience of Men 45-59 (Parnes, 1970). All those who were not at the time pursuing the occupation that had occupied them for the longest period of their working lives were classified as career changers. They were subdivided into those who had also remained with the same employer (group I) and those who had changed occupations *and* employers (group II). Both groups were contrasted with group III, which consisted of men who still retained both occupation and employer of longest duration. We suspect that group I contains many people who were simply promoted (foreman to manager, draftsman to architect) and are therefore not the kind of redirector of interest. Group II, therefore, is the closest to our target group. Group III is the "control" group. Group I did not differ statistically in any significant way from group III after their change, but the men in group II had significantly lower levels of education, earnings, assets, health, and attitudes toward current employers. The judgment one may reasonably draw about this group is that either their lower levels of competency caused them to become career changers, voluntary or involuntary (i.e., they were more likely to be terminated from their jobs or to have quit in the knowledge that their prospects were not very bright), or that the change itself resulted in a relative loss in status.

According to Boroson, "Someone seeking a 90° change with solid salary and status is shooting for the moon and, like the astronauts, had better be a very superior specimen" (1974, p. 24). This is particularly true in today's job market, in which many recently trained young people are unable to find work. Such fields as schoolteaching, social work, and the law, which have traditionally welcomed the middle-aged, seem to have begun to close the door.

SUGGESTIONS FOR FURTHER RESEARCH

The survey of general and introductory materials covered in this chapter reveals two primary research needs. The first is for a comprehensive and well-designed survey of people who have accomplished major career shifts in mid-life. An adequate survey is critical to an assessment of the changes that such shifts occasion in income, status, and job satisfaction. It would also be helpful in highlighting the characteristics—demographic and socioeconomic, and personality traits—that distinguish redirectors from the rest of the population. Finally, it should include questions on the means they employed to effect redirection, particularly the use of public facilities. If properly designed, the survey could help identify gaps in the coverage of public programs.

The second major research requirement is for an evaluation of an actual ongoing mid-life career redirection program so that benefits, costs, and incidental effects might be better understood. Since we have been unable to find an existing example of such a program, this sort of evaluation will have to await the establishment of pilot programs of the sort we describe in Chapter 11.

The remaining chapters of this report contain suggestions for further research on each of the topics covered.

STRUCTURE OF THE REPORT

In surveying the vast and diffuse literature bearing on the topic of mid-life redirection of careers—by project's end we had reviewed some 300 separate items—we organized our work under several basic themes. Part I (Chapters 2 to 4) prepares the ground by treating the sources of the desire for career redirection, the redirection potential of people in mid-life, and how career destinations for redirectors might be identified. Part I is meant to sketch the supply of and demand for career redirectors.

The literature on job discontent and career aspiration is large and well developed. In Chapter 2 Duran Bell evaluates the scientific merit of this literature and extracts lessons for organizing mid-life career-change efforts. The analysis was undertaken to enhance our understanding of the nature of the potential clientele.

In Chapter 3 Bell assesses the trainability of older workers who might desire or require vocational redirection. He does so by means of a critical survey of the literature that treats the effect of aging on learning

Future developments in labor markets will obviously have a strong influence on the needs and prospects for redirection. In Chapter 4 Laurence Dougharty reviews the manpower forecasting literature to answer two questions: Are there occupations that, because of an oversupply of workers, can be expected to generate people interested in career change? Which occupations seem particularly attractive as targets for redirection? The purpose is to ascertain the usefulness of manpower forecasting technology in planning redirection efforts.

Part II (Chapters 5 to 9) attempts to extract useful information from the literature that examines existing programs. These programs are generally in such fields as vocational training, manpower counseling, and adult education. They are interesting for two reasons: (1) career redirectors can use them, and (2) designers of explicit new career redirection programs may learn from the experience accumulated.

In Chapter 5, William Dunn (with contributions by Lawrence Olson) surveys the literature on government sponsored manpower programs. Most of the items are formal evaluations, so that standard criteria for judging scientific merit are appropriately applied.

Employer-sponsored training is the subject of Chapter 6, also by Dunn. Fewer items are found in this category, and most of the evaluations produced are less rigorously performed.

Unions have sponsored a number of innovative and interesting schemes to help their members redirect themselves. In Chapter 7, Velma Thompson describes what has been learned and discusses the basis for union interest in redirection efforts.

Several industrial countries have official programs for career redirection that formally are much more ambitious than anything now being done in the United States. Descriptions of these programs are reviewed by Anthony Pascal in Chapter 8.

Chapter 9, by Thompson, surveys publications that deal with American efforts specifically devised for career redirectors in the aerospace industry. Thompson also reviews a sampling from the literature describing university-based programs of vocational learning for adults.

Part III (Chapters 10 and 11), by Pascal, sums up the report and draws policy implications. Chapter 10 summarizes lessons garnered from our evaluation of the literature. It concentrates on questions of policy relevance, and leads directly to Chapter 11, which presents our recommendations for policymakers. They include suggestions for program initiatives and for further research and study.

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Part I

MID-LIFE CAREER REDIRECTORS: SOURCES AND OPPORTUNITIES

Chapter 2

ASPIRATION AND DISSATISFACTION AMONG WORKERS

by Duran Bell

INTRODUCTION

Serious studies of the worker in the workplace—his attitudes, morale, and psychic rewards—have been a feature of American scholarship for fifty years. Industrial psychologists took up the subject with considerable intensity during World War I, when there was a sudden need to screen and train workers for new war-related employments. The purpose was to optimize productivity by finding the best allocation of workers among tasks and creating the proper work environments. Sociologists began research on worker attitudes during the 1920s and 1930s from the perspective of European scholarship (Marx, Pareto, Weber, Durkheim) and adopted a more humanitarian stance. Concerned with uplifting the downtrodden, they focused on socialization problems and the alienation of the more marginal elements of the work force. Both of these distinct intellectual traditions—the psychological and the sociological—came together, however, on the issue of job satisfaction and alienation.

The resulting literature is voluminous (see Robinson et al., 1969; Vroom, 1964; House and Wigdor, 1967; Whitsett and Winslow, 1967)—so much so as to merit an annual review and synthesis in the *Journal of Applied Psychology* (and earlier in *Occupations*) for 30 years. For purposes of this study, we shall consider those aspects of the matter that bear an important relationship to the mid-life redirection of careers.

Research has thus far been unsuccessful in establishing a relationship between job satisfaction and most aspects of job performance; an extensive review of literature on this question by Brayfield and Crockett (1955) confirmed the lack of a direct relationship. Happy workers tend to exhibit greater job stability, lower absenteeism, and better health, but they do not exhibit higher levels of performance in production.

Vroom (1964) has sought to explain those findings by suggesting that the worker often does not have to achieve production beyond a minimal level to keep his job, and that higher production may be a management goal that is not easily translated into a rallying call for workers. We may add that the difficulties in measuring "job satisfaction" and "productivity" severely compound the difficulty of measuring their association.

Studies have confirmed, however, that there is a relationship between job satisfaction and the desire for job change and career redirection. Moreover, job satisfaction and the relative importance of various job attributes are clearly related to social class, occupational positions, age, and sex. Hence, it is possible to suggest which groups of workers are most likely to pursue mid-life career redirection. The literature on job satisfaction suggests that the salient target groups for such a program are (a) *older persons in technical, data-oriented professions and* (b) *persons in clerical occupations (largely women).*

We shall be quite critical of the methodology of job satisfaction research in this chapter, however, and raise basic questions regarding its policy relevance. In particular, we will argue that job dissatisfaction most often arises out of invidious comparisons with other jobs that are perceived to be achievable, or nearly achievable. Hence, those workers whose options are most severely limited may manifest less dissatisfaction than one might expect on standard questionnaires, and *seem* to have less interest in changing jobs. If that is true, redirection programs serving only those who express a desire for them may fail to reach those workers who probably need them most sorely.

JOB ATTITUDES BY OCCUPATION

The enormous outpouring of studies devoted to the attitudes of workers toward working conditions and related matters is the result of the importance, political sensitivity, and research intractability of the problem. The difficulty has been compounded by the entry of many misguided research efforts that rashly take up important issues without due regard for the careful investigative discipline that is necessary if the results are to possess recognized validity.

Robinson, et al. (1969), have discussed some of the many methodological problems associated with job satisfaction research and conclude that "one seldom runs across scales which overcome (or even attempt to overcome) the distortions due to restricted samples and inadequate validation procedures" (p. 8). Hence, as one approaches this literature, it is useful to screen the references with considerable care, and even then serious problems remain.

For example, surveyors of job satisfaction frequently ask the question, "Are you satisfied with your work?" Blauner (1969) and Wilensky (1965) have challenged the responses to this question on the grounds that people have a strong bias toward saying "yes." According to Blauner, this bias is attributable to "the fact that by demeaning his job, a respondent is questioning his very competence as a person." This view is consistent with the hypothesis that occupational status and job competence are basic to the mature person's concept of "self." And some of the more interesting literature on "adult development" emphasizes the consequences of job involvement and job success for the healthy devolution of persons over the life cycle. The relevance of one's job to self-identity may become especially important as one reaches mid-life and one's current job status becomes more indicative of long-term occupational capability. Hence, the self-concept hypothesis suggests that the bias toward saying "yes" to the job satisfaction query should increase with age, at least up to ages 50 to 55. (There is evidence that people become more reconciled to their job status after age 50 and focus upon alternative sources of self-esteem if their job status is not high enough.)

A difficulty in accepting the implications of the self-concept theory is that the presumed suppression of negative evaluations of one's occupational status may be *fully internalized.* In other words, psychological processes ("cognitive dissonance") may impose upon a person's perceptions a genuine feeling of satisfaction (or at least not of dissatisfaction) if the need for a well-integrated and satisfactory self-concept exists. In this case, the person in question must be described as "satisfied." It is not the proper role of the observer to dictate the appropriate objects of, and psychological processes involved in, the determination of satisfaction.

Harold Wilensky raises another problem with these inquiries. He argues that there is a bias toward saying "yes" because people do not want to appear contrary, negative, and rebellious. Rather, they tend to *acquiesce* and demonstrate *social desirability*. "This would appear to constitute a strong argument for developing more sophisticated indices of job satisfaction than the usual direct questions" (Robinson, et al., 1969, p. 26).

Nevertheless, the question, "Are you satisfied with your work?" has evoked negative responses from 8 to 21 percent of the population. Whether those figures are disturbing depends on one's perspective. They are regarded as small by Blauner, Wilensky, and others who view many of the jobs in our economy as disagreeable.

Many have argued that a better question is, "If you had the chance to start your working life over again, would you choose the same kind of work you are doing now?" Table 6 records the responses to that question in the surveys of Blauner (1965) and Wilensky (1964). The virtue of the question is that it enables the respondent to feel less constrained by his currently limited options, and, hence, freer to express any dissatisfaction he harbors. One may still challenge the meaningfulness of this question, however. Many people who have low socioeconomic status may feel embarrassed by the implication that their current occupations reflect their productive or intellectual potential. This embarrassment should increase as social status decreases. Hence, if the respondent has low social status, he may tend to avoid saying

Table 6

PERCENTAGES OF OCCUPATIONAL GROUPS WHO WOULD CHOOSE SIMILAR WORK IF STARTING OVER AGAIN

Professional and Lower White-Collar Occupations	Percent	Working-Class Occupations	Percent
Urban university professors[a]	93	Skilled printers	52
Mathematicians	91	Paper workers	42
Physicists	89	Skilled auto workers	41
Biologists	89	Skilled steelworkers	41
Chemists	86	Textile workers	31
Firm lawyers[a]	85	Blue-collar workers[a]	24
School superintendents[b]	85	Unskilled steelworkers	21
Lawyers	83	Unskilled auto workers	16
Journalists (Washington correspondents)	82		
Church university professors[a]	77		
Solo lawyers[a]	75		
White-collar workers[a]	43		

SOURCE: Robinson, et al. (1969).

[a] All probability samples or universes of six professional groups and a cross-section of the "middle mass" (lower middle class and upper working class) in the Detroit area, stratified for comparability with respect to age, income, occupational stratum and other characteristics (Wilensky, 1964).

[b] From a 1952-53 sample of school superintendents in Massachusetts.

he would be in exactly that same status if given a chance to try again unless he is also confident that the interviewer respects the status that he has in fact achieved.

Nevertheless, in a lengthy investigation of a cross-section of 2460 adults, Gurin, et al. (1960) reported that a majority of persons in each status level claim there is "no other kind of work" they would rather be doing. Even 57 percent of unskilled workers reported that they would prefer doing the same thing if given a new chance! This result has suggested to some that many lower-status people have very limited occupational horizons and few aspirations for upward mobility. However, it is not clear how these results stand relative to those of Blauner and Wilensky.

Gurin, et al. also asked, "Taking into consideration all the things about your job, how satisfied or dissatisfied are you with it?" The responses to that question, and to the question of what kinds of work the respondents would rather be doing, are shown in Table 7 for eight job categories.

Table 7

BREAKDOWN OF QUESTIONS ABOUT JOB SATISFACTION

(In percent)

Occupational Status	N	Question (1): Are You Satisfied, Dissatisfied?		Question (2): Prefer Same Job
		Neutral, Ambivalent	Dissatisfied	
All	911	15	8	61
Professional, technical	119	11	3	68
Managers, proprietors	127	12	6	69
Sales	55	14	17	53
Clerical	64	22	17	42
Skilled	202	16	7	57
Semiskilled	152	18	6	55
Unskilled	84	19	16	57
Farmers	77	13	7	84

SOURCE: Gurin, et al. (1960) in Robinson, et al. (1969).

The overall implications about job dissatisfaction that emerge from Table 7 depend on the extent to which one views the "neutral, ambivalent" response to question (1) as an indication of *nonsatisfaction* —giving a possible estimate of 23 percent of workers who are not satisfied—or whether one focuses only upon those who are "dissatisfied." However, it is clear that job satisfaction tends to increase with social status within the white-collar group and the nonfarm blue-collar group. Moreover, lower white-collar workers manifest less job satisfaction and a greater inclination toward occupational change than all but the lowest blue-collar group.

The special position of lower white-collar workers is not universally attested to, however. Wilensky's survey of skilled and white-collar workers in Detroit focused on the extent to which the respondent's job fulfilled the need for a desirable self-image. Through a series of open-ended questions, he developed measures of alienation, attachment, and indifference vis-à-vis each selected aspect of self-image. The results are shown in Table 8. Wilensky's major finding is that one professional group—engineers (especially those working for a single-product firm)—show up as more alienated than the lower white-collar or higher blue-collar groups.

Table 8

DISTRIBUTION OF WORK ALIENATION, INDIFFERENCE, AND ATTACHMENT FOR VARIOUS OCCUPATIONS

Group	N	Work-Alienated[a]	Work-Indifferent[b]	Work-Attached		
				High	Med	Low
Upper-middle-class professionals, age 30-55						
Solo lawyers	100	10%	16%	20%	51%	29%
Firm lawyers	107	8	8	34	49	18
Church university professors	31	10	16	32	45	23
Urban university professors	68	6	9	22	46	32
Engineers in multiproduct firms	93	19	14	28	45	27
Engineers in single-product firms	91	30	15	22	45	33
Middle mass						
Lower white-collar, age 21-29	69	13	22	20	45	35
Lower white-collar, age 30-55	252	13	25	25	35	40
Upper blue-collar, age 21-29	53	23	22	15	46	39
Upper blue-collar, age 30-55	293	18	36	16	35	49

SOURCE: Wilensky (1964).

[a] Percentage alienated on at least one aspect of prized self-image.

[b] Percentage indifferent on all aspects of prized self-image.

An unpublished study by Converse and Robinson, cited by Robinson, et al., 1969, poses the questions, "All things considered, how satisfied would you say you are with your job?" and "Do you ever think of changing to another job or another type of work?" The sample consisted of a national probability sample of 1244 adults plus 789 adult residents of Jackson, Michigan.

Only 11 percent of the respondents indicated any *lack* of satisfaction (see Table 9) but the range of responses among the many occupational groups ranged widely. By assigning "dissatisfied" to any group for which less than the average number were completely satisfied and more than the average number were "not very" or "not at all" satisfied, Converse and Robinson find significant dissatisfaction among laborers, unskilled service workers, semiskilled operators, skilled workers, some sales workers, technicians, and engineers.

The designation "dissatisfied" used by Converse and Robinson could hardly gain general acceptance; one should not be said to be dissatisfied simply because he is below *average* in satisfaction. However, the appearance of engineers among those who are less than average in satisfaction is a point of interest, especially since engineers indicate a greater tendency to "think about changing jobs" than do any other groups of "dissatisfied" workers.

Table 9

REPORTED JOB SATISFACTION AND THOUGHTS ABOUT CHANGING JOBS, BY OCCUPATION

Occupation	N	Job Satisfaction			Interpretation[a]	Think About Changing Jobs
		Completely Satisfied	Pretty Satisfied	Not Very, Not at All		
Professional						
People-oriented						
Artist, musician	5	80%	20%	0%	Very satisfied	40%
Professor, librarian	8	62	38	0	Very satisfied	25
Advising profession	36	53	41	6	Very satisfied	31
School teacher	54	46	52	2	Very satisfied	26
Nurses, other medical	15	33	67	0	Satisfied	33
Data-oriented						
Scientist, physician	16	43	50	7	Satisfied	38
Accountant, auditor	13	23	77	0	Ambivalent	54
Engineer	43	23	70	7	Dissatisfied	56
Technician	33	24	67	9	Dissatisfied	61
Total, professional	223	39	57	4	Satisfied	45
Managerial						
Self-employed (large firm)	23	39	57	4	Satisfied	26
Self-employed (other)	40	25	73	2	Neutral	40
Salaried	68	50	46	4	Very satisfied	36
Clerical						
Bookkeeper	18	44	56	0	Very satisfied	22
Secretary, typist	70	44	47	9	Satisfied	39
Other clerical	150	31	57	12	Neutral	42
Sales						
High status--goods	11	9	82	9	Neutral	64
High status--services	11	36	46	18	Dissatisfied	55
Sales clerk	28	32	54	14	Neutral	64
Other sales	7	14	86	0	Neutral	42
Skilled						
Self-employed	8	50	25	25	Ambivalent	50
Foremen	39	41	54	5	Satisfied	28
Other skilled	151	29	58	13	Dissatisfied	38
Semiskilled: operative	229	27	57	16	Very dissatisfied	42
Service						
Protective	21	47	48	5	Satisfied	19
Armed forces	9	56	33	11	Satisfied	67
Household	24	46	33	21	Ambivalent	38
Other service	108	32	53	15	Dissatisfied	42
Unskilled: laborer	32	25	56	19	Very dissatisfied	34
Total, all occupations	1270	34	55	11		40

SOURCE: Robinson, et al. (1969).

[a] To be "satisfied" (or "dissatisfied"), the group must show both more (less) than an average percentage of members completely satisfied and less (more) than average number not very or not at all satisfied. "Ambivalent" means that the percentages completely satisfied and not very/not at all satisfied are contradictory. All other groups are called neutral.

Unfortunately, the Converse and Robinson sample was not large enough to permit breakdown by age as well as occupation. The author of this chapter suspects that there is greater dissatisfaction among *older* "data-oriented professionals." Obsolescence can exert a considerable corrosive influence on the effectiveness of those professionals, especially those who have not advanced into managerial ranks by mid-life. If so, the low levels of satisfaction manifested by engineers and technicians may stem from the responses of older persons in those occupations.

The results in Table 9 indicate that the degree of satisfaction strongly affects the probability of indicating a *desire to change jobs*. The 40 percent who think about changing jobs comprise 17 percent of the "completely satisfied," 47 percent of the "pretty satisfied," 79 percent of the "not very satisfied" and 95 percent of the "not at all satisfied." Such a relationship is the expected one if the *opportunities to change* jobs are uniform among persons with different levels of job satisfaction. But if some classes of persons have few conceivable options or if they have limited imagination (for some reason), then a discrepancy may arise between job dissatisfaction and the contemplation of alternative employments. In that connection, one should note the low percentage of persons in the least-pleasant, lowest-paying jobs who think about job change. For example, 40 percent of the persons in the total sample thought about changing jobs, but only 34 percent of the laborers and 38 percent of semiskilled operators and household workers.

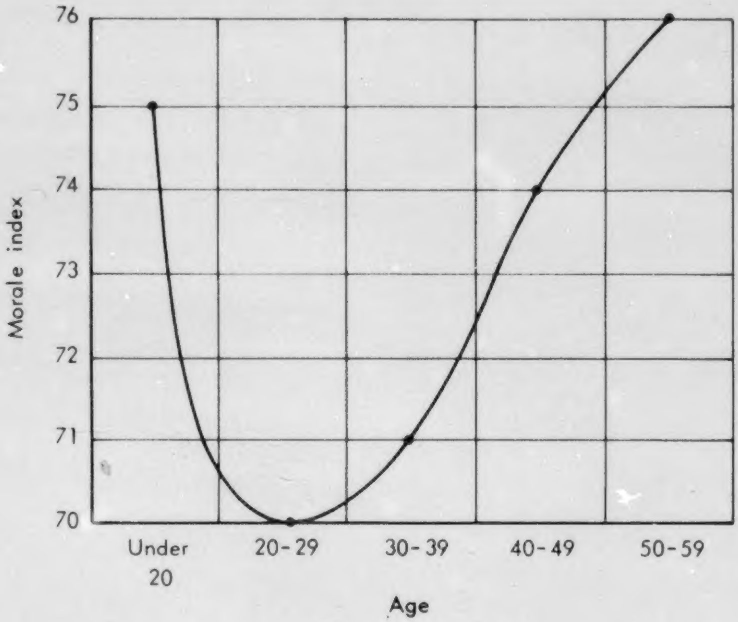
The relationship between job satisfaction and the tendency to think about job change is surely confounded by differences in the range of *opportunities* for job change among workers in different occupations. Indeed, unless one considers jobs that may be said to be *objectively* painful or that do not even pay a subsistence wage, the degree of satisfaction with a job will generally be based upon some set of possible alternatives. If the domain of relevant comparisons is dominated by jobs that are not obtainable, then frustration and dissatisfaction may be the result.

JOB ATTITUDES BY AGE

One of the most wide-ranging reviews of literature on job satisfaction is contained in the early chapters of Herzberg, et al. (1957). The authors summarize research on satisfaction and its relationship with age, education, intelligence, and personality variables.

They cited 23 studies that show changes of job satisfaction with age. The general consensus is that the youngest workers—those in their late teens and early twenties—enjoy relatively high levels of job satisfaction, but that there is a rapid decline until about the age of 30, followed by increasing satisfaction (see Fig. 2). Herzberg, et al., hypothesize that this phenomenon arises from the exuberance associated with the early experience of a particular job (or merely of being employed), but that the negative aspects of the work situation progressively make themselves felt. The increase in satisfaction after age 30 may be associated with the ultimate acquisition of the "right job," to which the worker gradually adjusts.

However, since there is considerable evidence that people acquire needs that are within the range of the possible, the tendency for job satisfaction to increase with age after some point may have nothing to do with acquisition of the right job. Rather, the fact of having few desirable occupational options, together with many disagreea-



SOURCE: E. J. Benge and D. F. Copell, "Employee Morale Survey," Modern Management, Vol. 7, pp. 19-22, reproduced in Herzberg, et al. (1957).

Fig. 2 — Morale according to age

ble characteristics of the present job, may generate sufficient anxiety to facilitate the repression of unmet (and unmeetable) needs and the adoption of a self-image that is consistent with the possible.

Another possibility that potentially affects any cross-sectional analysis is the "generational effect." The older generation may have had much lower aspirations in the first place, and therefore evince greater satisfaction in specific objective circumstances.

In their discussion of dissatisfaction, Shepard (1970) and Herrick (1972) argue that a movement toward the "democratization of industry" visible prior to 1889 was abated with the arrival of immigrants who accepted the more disagreeable jobs without complaint. Since then, however, expectations have tended to increase with each new generation, so that the current new generation has experienced the antiauthoritarianism of the schoolroom; and their potential for submissiveness has been "undermined by movements of rock music, civil rights and war protests." These factors, then, may critically affect, they argue, the level of job satisfaction experienced by young blue-collar workers.

Herzberg, et al., also cite the contrast of the work regime with that of the school as a factor in the dissipation of early, youthful, job enthusiasms. They suggest job enrichment and rotation as possible palliatives.

While there are a number of a priori reasons to believe that job satisfaction increases with age, the methodology by which Fig. 2 was developed is totally unsatisfactory. The figure represents the implications of, or distillations from, a very large number of studies—each with its own set of definitions, methodology, target population, and so forth. Unfortunately, the required large-scale analysis *based upon combined cross-sectional and longitudinal data* has not been performed.

JOB ATTITUDES BY LEVEL OF EDUCATION

As for the relationship between job satisfaction and educational attainment, Herzberg, et al., cite thirteen studies in which this variable appears. Five show no relationship; and Centers and Cantril (1946) found no relationship for persons who earn lower incomes but a negative relation among those with high incomes. However, a number of studies of blue-collar workers (Mann, 1953; Mossin, 1949; Neilson, 1951; Scott and Hayes, 1921) indicate a negative relation.

The studies cited by Herzberg seemed to use rather crude, simple correlational analyses, not multiple regression, so that a number of critical variables were not properly controlled (statistically). For example, since the level of education is negatively associated with age, when occupation is held constant, and since people over 30 are more satisfied than younger people, we would expect a negative relationship between educational attainment and job satisfaction whenever age is not controlled.

With these considerations in mind, it is interesting to observe the findings of Kilpatrick, et al. (1964) regarding the relationship between the level of educational attainment and job attitudes. The Kilpatrick study involved 1863 respondents from a national probability sample. The average ratings of those respondents of various "occupational values" is shown in Table 10. The items are grouped into extrinsic, intrinsic, and general values, where "extrinsic" refers to environmental factors and working conditions, and "intrinsic" to matters affecting the enjoyment of the job task per se. These concepts will be discussed more fully below when we take up the dual factor theory of Herzberg, et al.; we note here only that the last column of Table 10 clearly indicates the negative relationship between a person's assigned value of an extrinsic item and his level of education. Intrinsic factors are more important for the better educated. But it is clear that the values assigned to specific job attributes are largely determined by the character of the jobs that are within the person's perceived domain of feasible job options.

For example, the less educated are more likely to agree that "to be really successful in life, you have to care about making money" (question 5). They also are more likely to say that "I like the kind of work you can forget about after the workday is over" (question 53). Since it is probably true that a person with little education cannot expect to "be successful" (whatever that means) without extraordinary effort or talent, and since few of his job options are such that he would have any inclination to carry his work home with him, it is not surprising that his responses are what they are. In other words, these questions seem to be largely tests of a person's conception of alternatives. Perhaps the critical relationships could be more readily seen if one stratified the sample by occupation; then one might be able to measure the varying gap between people's "ideal" jobs and their actual jobs. The difference may be related to education when occupation is controlled, or related to occupation when education is controlled.

Table 10

OCCUPATIONAL VALUE ITEMS, AVERAGE SCALE VALUES (NATIONAL SAMPLE), AND RELATION TO EDUCATION

Value	Average Scale Rating	Relation to Education
Extrinsic Values		
Economic		
5. To be really successful in life, you have to care about making money	5.8	--
7. After you are making enough money to get along, then making more money in an occupation isn't very important	4.9	+
24. I would like my family to be able to have most of the things my friends and neighbors have	7.4	-
26. To me, work is nothing more than a way of making a living	4.2	--
Noneconomic		
12. Success in an occupation is mainly a matter of luck	3.6	--
35. Success in an occupation is mainly a matter of knowing the right people	5.0	--
53. I like the kind of work you can forget about after the workday is over	6.7	--
Intrinsic Values		
Achievement		
6. Work is most satisfying when there are hard problems to solve	6.5	++
8. To me, it's important to have the chance to get to the top	7.8	0
9. It's important to do a better job than the next person	6.9	0
11. Success in an occupation is mainly a matter of hard work	7.3	0
25. It is more important for a job to offer opportunity than security	5.9	++
30. It would be hard to live with the feeling that others are passing you up in your occupation	6.1	0
32. To me, it's important in an occupation that a person be able to see the results of his own work	8.4	+
33. Getting recognition for my own work is important to me	7.6	0
36. To me, it's important to have the kind of work that gives me a chance to develop my own special abilities	8.1	++
48. Sometimes it is right for a person to lose friends in order to get ahead in his work	4.1	-
52. A person should constantly try to succeed at work, even if it interferes with other things in life	6.0	-
Affiliation		
21. To me, a very important part of work is the opportunity to make friends	7.4	0
22. The main satisfaction one can get out of work is helping other people	6.9	+
Influence		
19. It is satisfying to direct the work of others	6.6	+
29. To me, it's important in an occupation for a person to be able to carry out his own ideas without interference	6.7	+
54. To me, gaining the increased respect of family and friends is one of the most important rewards of getting ahead in an occupation	7.6	0
General Values		
1. A person has a right to expect his work to be fun	6.2	0
16. Even if you dislike your work, you should do your best	8.3	0
17. If a person doesn't want to work hard, it's his own business	5.4	0
18. Work is a good builder of character	8.2	0
20. Work is a way of being of service to God	7.7	0
31. Work helps you forget about your personal problems	7.2	0
50. To me, almost the only thing that matters about a job is the chance to do work that is worthwhile to society	5.6	+

SOURCE: Robinson, et al. (1969).

GENERAL OBSERVATIONS

At several points in this review we have argued that attitudes toward one's job may be dominated by perceptions of possible alternatives, and that the set of possible alternatives actually considered will gradually converge upon a smaller set of *feasible* alternatives as a person grows older. Unfortunately, available evidence does not permit confirmation of this hypothesis in the context of job satisfaction research. However, if the hypothesis is valid, it casts serious doubt on the relevance of job satisfaction research for public policy.

For example, given this hypothesis, programs that facilitate career change would have two effects: (a) they would increase the probability of career change among those who are dissatisfied; and (b) they would enlarge the occupational opportunity set for many workers and, thereby, induce greater dissatisfaction with current occupations. In the long run, such programs should succeed, we would hope, in producing a net benefit in terms of job satisfaction. But on purely a priori grounds, there is little basis for certainty of this effect.

Rather than seek to develop policies that directly address the job satisfaction issue, we could focus upon the question: How should persons be allocated among the set of occupations so that job dissatisfaction would be minimized?

From the point of view of economic theory, all occupations should manifest equal "net advantage," in the sense that when all factors are considered—wages, length of training, working conditions, and job characteristics—all jobs should provide equal psychic utility. For example, if two jobs are identical except that one is in a more unpleasant environment, or requires more commuting time, etc., then the less desirable job should pay more, so that the net value of the two jobs is the same to the *marginal* entrant into that job. Some people will be very satisfied, because they do not find certain features of their jobs as difficult, or as disagreeable, as would the average person in that trade and yet are paid a high enough wage to induce the participation of the marginal entrant. Then, there are those who have a peculiar lack of interest in work activities, and for whom any full-time job would be dissatisfying. These persons would reach a "not dissatisfied" relationship with their jobs by being absent or working fewer hours per day, so that leisure and the marginal utility of remaining money wages would be higher. In this simple world of economic equilibrium, there would be many very satisfied and many satisfied workers, but no dissatisfied workers.

It is common knowledge, however, that the least-pleasant jobs are not the highest-paying jobs; and the probability that a person will "choose" a very-low-paying/low-status job, or a very-high-status/low-paying job, seems to be strongly influenced by family background and related characteristics. Consequently, while there is considerably more intergenerational mobility in the United States than in many countries, the range of occupations with which many persons are confronted is restricted by factors that are independent of their (thus far unmeasurable) potential capabilities. And in the absence of artificial barriers, occupations that enjoy a larger *leisure* component would, ceteris paribus, receive lower pay and more arduous jobs would be paid relatively more. Indeed, the recent expansion of public institutions of higher learning, together with the persistent constraints on labor market entry posed by labor unions, have already begun to reduce the rewards to leisure and increase the relative rewards to some classes of labor.

THE HERZBERG CONTROVERSY

Certainly, the most intensively discussed issues in the job satisfaction literature have been those raised by Herzberg, Mausner, and Snyderman in their book *The Motivation to Work* (1959). An earlier review of the literature by Herzberg, et al. (1957) had suggested that the factors affecting job attitudes differed "depending upon whether the investigation was looking for things the worker liked about his job or things he disliked." The later book sought to test that implication.

In *The Motivation to Work*, Herzberg, et al. studied a sample of 200 engineers and accountants, who were told to:

> Start with any kind of story you like—either a time when you felt exceptionally good or a time when you felt exceptionally bad about your job, either a long-range sequence of events or a short-range incident. (p. 35)

If the first story told of a satisfying experience, the respondent was subsequently asked to relate a dissatisfying event, and vice versa. The responses were then coded into fourteen categories of job-related attributes:

1. Recognition
2. Achievement
3. Possibility of growth
4. Advancement
5. Salary
6. Interpersonal relations
7. Supervision-technical
8. Responsibility
9. Company policy and administration
10. Working conditions
11. Work itself
12. Factors in personal life
13. Status
14. Job security

Examination of these responses revealed that most satisfying incidents were related to *intrinsic* work factors: achievement, recognition, the work itself, responsibility, opportunity for growth and advancement. *Extrinsic* factors underlay most of the dissatisfying incidents. Hence, a job's inadequacy in the intrinsic dimensions would not produce dissatisfaction, only a lack of satisfaction; and a job's excellence on the extrinsic dimension does not produce satisfaction, only a lack of dissatisfaction.

This new two-factor theory contrasted sharply with the conventional uniscalar view in which satisfaction and dissatisfaction were the consequences of different values of the same arguments. However, the time seemed ripe for this challenge to orthodoxy by Herzberg et al.: not only could their study be easily replicated and substantiated, but a general challenge directed against the old *theory X* concepts of individual motivation toward work had mobilized independently (this new theoretical outlook, theory Y, posited the importance of work itself as a motivating agent, independent of monetary incentives). Herzberg, et al. (1959) referred to satisfaction-producing factors as *motivators* and to the extrinsic factors that make for dissatisfaction as *hygiene*. Hence, the Herzberg theory is often called the "dual factor" theory of motivation, or the "motivator-hygiene" theory.

The theory focuses on elements that the worker finds important in evaluating the job, and would be useful to managers (and workers) who wish to make *a given job* more satisfying. Hence, the theory is relevant to mid-life redirection in that there may be methods of modifying jobs so that career change may no longer be desired.

In particular, if some jobs are *intrinsically* unsatisfying, there is no remedy short of abolishing the job. But if garbage collecting, for example, can be made a "good job" at some wage rate or under certain working conditions (i.e., by "extrinsic" means), then dissatisfaction may be greatly reduced.

A large number of studies and dissertations have examined the issues raised by the motivator-hygiene theory, some of which are summarized neatly by House and Wigdor (1967). The studies are inconclusive on the validity of the Herzberg theory. Studies that use the "critical incident" method of evoking sources of satisfaction and dissatisfaction tend to support Herzberg; studies that use different methods tend not to. Moreover, the validity of the theory seems to depend upon the occupation of the respondent.

Vroom (1964) has suggested that the critical incident method produces biased responses:

> Persons are more likely to attribute the causes of satisfaction to their own achievements and accomplishments on the job. On the other hand, they may be more likely to attribute their dissatisfaction not to personal inadequacies or deficiencies, but to factors in the work environment; i.e., obstacles presented by company policies or supervision. (p. 129)

Vroom argues further that since the interviewers must *code* the respondents' incidents in terms of the underlying factor—motivation or hygiene—there is a possible interviewer bias in assigning motivator factors to satisfying incidents and hygiene factors to dissatisfying ones.

Friedlander (1966a) challenges Herzberg, et al., on the practical implications of the dual factor theory. The presumption that the intrinsic factors motivate persons toward improved job performance has little foundation in existing research. Job satisfaction may be important to the effective performance of many tasks, but clearly extrinsic factors may also affect productivity. Yet, this presumption of a direct relationship between motivation and productivity is the basis of the practical significance of Herzberg's work.

Another important criticism of the Herzberg theory is its apparent occupation-boundedness: factors that induce satisfaction are more likely to be intrinsic for upper white-collar workers and extrinsic for blue-collar workers. For example, Centers and Bugental (1966) completed a survey of 633 workers of various occupational groups and found a consistently negative relationship between the importance of intrinsic factors "in keeping them in their jobs" and socioeconomic status. Similar findings were obtained by Friedlander (1966a, 1966b).

In a particularly insightful paper on this subject, Martin Wolf (1970) has reviewed the many studies of job satisfaction and has synthesized them by means of Maslow's theory of motivation. He first notes that the traditional uniscalar theory seems correct in finding both satisfaction and dissatisfaction to be created by the same factors. Nevertheless, he finds that the dual factor theory is correct in finding intrinsic factors to be *more likely* satisfiers than dissatisfiers. These facts, he suggests, do not prove or disprove either theory, but rather indicate the need to apply a more general theory of job satisfaction based on "need gratification."

Maslow (1954) proposed a hierarchy of needs such that those whose experience and expectations are limited to the satisfaction of the lower-level needs will experience satisfaction, or dissatisfaction, as a function of variations in the degree of gratification of those needs, independently of the extent to which higher-order needs are satisfied. But those for whom lower-level needs are *unconditionally* gratified will experience satisfaction, or dissatisfaction, depending upon fluctuations in the degree of gratification of higher-order needs.

While it is not clear how the relevance of Maslow's scheme could be verified experimentally, some concept of need hierarchy is intuitively meaningful. The evidence from most of the national cross-sectional studies indicates that the "salary" variable is more important as an indicator of job satisfaction in lower-paid occupations, and that other factors, such as "creativity," may gain greater significance in those occupations for which salary is perceived to be adequate.

CONCLUSION

Our discussion of the job satisfaction literature has considered (a) the (sociological) surveys of job attitudes among people in different occupations and (b) the (psychological) surveys of factors relevant to job attitudes within occupations. In both sets of literature we have encountered similar theoretical problems. Most important, we find a failure to control for the systematic differences in actual or perceived alternatives relevant to persons in different occupations. In part, the failure to control for variables of potential relevance (such as age and education) for detailed occupational groups arises from the small size of the samples taken in the surveys.

The consequences of these failures are serious. If we ask the simple question, "Are you satisfied with your work?", we find differences in average response by occupation. But what do the responses represent? Should we applaud when private household workers are not dissatisfied, or when they indicate little inclination toward "thinking about changing jobs?"

We have argued that feelings of satisfaction can arise only in relation to a set of perceived alternatives. For example, differences in the degree of expressed dissatisfaction between engineers and household workers partly reflect differences in aspiration levels and opportunities that accrue to persons of different educational and class backgrounds.

To examine the differences in aspiration levels and relevant alternatives to existing jobs, one simple first step would be to ask questions about the titles and characteristics of jobs that usually come to mind when they "think about changing jobs." The responses would vary with occupation, and would exhibit interesting differences in the degree to which the indicated alternative jobs were feasible, given the development of programs for mid-life redirection.

However, if we are interested in the development of a *pilot program* in career change, the data discussed above suggest that many volunteers could be found among the ranks of engineers, "other data-oriented" professionals, and lower-level clerical workers.

The data also suggest dissatisfaction among lesser skilled workers (other than household workers). These workers may be presumed to be dissatisfied with respect to extrinsic job characteristics that public policy initiatives may be able to affect. An educational program is unlikely to open many doors for them; the immediate barriers to their advancement may be of a sharply different sort. However, we know far too little about the factors that determine the perceived and actual constraints on the opportunity sets of less-advantaged workers. Research toward those ends should receive priority.

The literature that has arisen around the Herzberg hypothesis has failed to make sufficient use of a unifying model, such as the "need gratification" model suggested by Wolf (1970). However, there is the implication that the level of dissatisfaction among blue-collar workers may be effectively reduced by changes in wage rates and environmental extrinsic factors. Such changes are unlikely to take place, however, unless such workers have greater vertical and horizontal mobility. Hence, the ability to change jobs is a basic requirement for workers in most occupations, regardless of the extent to which intrinsic or extrinsic factors dominate their evaluation of their work.

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Chapter 3

TRAINING POTENTIAL AMONG OLDER WORKERS

by Duran Bell

INTRODUCTION

People who decide to change careers after reaching the age of 35 or 40 do so from a perspective different from that of people 20 to 25. The older person may possess the advantage of greater occupational and life experience, but he also faces special problems of financial support, job discrimination, and, perhaps, special age-induced difficulties in learning, motivation, and motor activity.

In considering a pilot program for mid-life redirection, therefore, one must carefully consider the implications of age as it affects the worker's learning ability and future potential productivity, and avoid career options that are difficult to enter or learn in mid-life.

Since the literature surveyed in this report deals with the "intersection" of many age-related factors with the requisites of mid-career redirection, we consider here only those aspects of the psychology of aging that are relevant to training potential. Our task is to determine how much is known that may be of value in the development of an innovative, experimental project for mid-life redirection.

We consider first the effect of age on potential productivity and intelligence, and then examine the literature dealing with the special learning problems common among older persons. These considerations suggest training modalities that correspond to learning propensities. We then seek a definition of "career redirection" that is operationally useful in this context, and discuss some recent attempts to train and obtain employment for older workers in the United States. Those attempts, by the way, illuminate the consequences that may await those who fail to understand the effects of age upon the characteristics and attributes of older workers.

EFFECT OF AGE ON ABILITY[1]

A number of studies have documented a general slowing of reaction time with age (Geist, 1968). In the organization of complex physical performance, older people tend to have difficulty with overlapping tasks and irregular timing. There is substantial individual variation, however. In some cases involving a mean difference between the performance of an older group and a younger group, a number of the above-average older people have performed better than some of the below-average younger group (Eisdorfer and Cohen, 1970).

The manifestations of slower reaction time are more marked for some people than for others. Older people show some tendency to shift from an emphasis on speed to accuracy (Welford, 1959). Some researchers believe that slowing in reaction time and psychomotor speed may be correlated with changes in sensory organs. Studies have shown that advancing age brings with it an increased likelihood of hearing loss, reduction in ability to taste and smell, and loss of visual acuity.

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[1] This section benefitted from contributions from Joanne Wuchitech.

A number of studies involving intelligence tests conclude that some components of a score on an intelligence test decline with age. Summarizing these studies, Geist (1968) indicates that capacities involving vocabulary, verbal understanding, and information about the environment hold up well with age. In fact, healthy older people may do better on these subtests than many younger people. On the other hand, a number of mental functions have been shown to decline with age: analysis, synthesis, inventiveness, ingenuity, imagination, immediate visual memory, and perception.

The age-dependency of intelligence and mental ability seems to be critically related to the type of test, however. In particular, tests that require speed seem to penalize older persons; when they do not, no loss of mental power is evident until an advanced age (Lorge, 1936). In fact, older persons perform relatively better in intelligence tests requiring the manipulation of stored or verbal information. Hence, while all tests show a decline in intelligence at *some* age, the rate of decline and the point at which the decline is significant varies from one test to another. For example, the Wechsler Adult Intelligence Scale, which was devised for persons in middle and late maturity, compares mental abilities under conditions that are more favorable for older persons.

The above observations were drawn from comparisons of the average performance of different age groups. The few available longitudinal studies of intelligence (Bayley and Oden, 1955; Owen, 1953) indicate that the perceived loss of intelligence is more readily experienced by those whose initial intelligence was lowest. In summarizing the evidence, R. M. Belbin (1965, p. 29) concludes:

> The evidence of the relatively greater maintenance of intelligence amongst the intelligent implies that where intelligent interests and activities are pursued, intelligence is preserved or advanced throughout the normal span of working life.

Unfortunately, the methodology for valid examination of age-dependent processes is only now being developed. The cross-sectional studies that have dominated the literature tend to confound age and "cohort" effects. That is, the observation at one point in time of persons of different ages is not the same as the observation of a given group of persons at different points in time.

On the other hand, longitudinal studies may suffer from "cohort-centrism," and derive conclusions that are valid for the age-dependence of only one unique cohort. Moreover, the validity of conclusions regarding the particular cohort may be weakened by the effect of the periodic *retesting* of a given group of persons with a specific test battery. People can learn the answers. Finally, longitudinal studies are often expensive and require so much time to complete that the public policy issues of interest may lose significance.

In his review of the literature on the psychology of aging, Botwinick (1973) concludes that longitudinal studies suggest that performance on intelligence tests increases less and less with age, until it reaches a plateau between the ages of 25 and 30. Then measured intelligence tends to decline slightly with age for subjects of average intelligence, but is maintained or increases slightly to age 50 or more for initially more able subjects. It is not surprising, then, that cross-sectional studies have repeatedly shown that performance on these tests begins to drop at age 30.

On the other hand, longitudinal studies may overestimate the maintenance of intelligence with age because of at least two factors: the retest bias, mentioned above, and the probable tendency for the less intelligent to drop out of the sample at earlier points in time. In other words, it is likely that the effects of age on intelligence fall somewhere between the findings of cross-sectional and longitudinal studies.

Nevertheless, these studies of age and intelligence suggest strongly that, whenever possible, workers and their employers should organize work assignments and career paths in such a way as to maintain intellectual vitality of the workers. Such an arrangement would, perhaps, give rise to higher short-run costs of production, but may yield a compensatory payoff by prolonging the peak effectiveness of the personnel.

The studies also indicate that the extent to which an older worker may be able and willing to retrain for a *radical* redirection of career will be influenced by the extent to which his old career was mentally challenging.

Older workers often lose confidence in their ability to take tests and learn new things. To some degree, the loss of confidence may reflect an actual (but preventable) loss of mental ability. According to Siegle (1960), "these fears may add up to a serious mind-set—or resistance to the assimilation of new ideas. They may stand as a block to the learning process and effective adaptation to change. The adult student may be more threat-oriented than problem-oriented at the outset, thus challenging all our ingenuity to provide reassurance and the restoration of confidence." (Quoted by R. M. Belbin, 1965, p. 26).

J. E. Birren (1955) has discussed the question of motivation with great clarity in a rather speculative informal paper, "Age Changes in Skill and Learning." He, too, indicates that the primary problem of adult learning lies in motivation. The person who has a successful and ego-satisfying career is one whose accomplishments are noteworthy, relative to his expectations; there is a close congruence between the "actual self" and the "ideal self." When there is a serious gap between expectations and accomplishment, however, "the person refuses to look at himself" and "such defensiveness is reflected in a lack of desire to explore the new and unfamiliar." (Birren, 1955, p. 70).

On the other hand, it is by no means clear that motivation and initiative are truly age-dependent. Rather, there may be intervening variables, *correlated with age*, that properly explain the observed phenomena.

For example, E. E. Ghiselli (1954, 1955, 1956) has pursued a line of research into the use of "forced choice" questionnaires for the study of initiative. In his 1956 paper, "The Correlates of Initiative," he demonstrated that initiative—the capacity to originate, open up new fields, conceive of new ways of doing things—declines only slightly with age. (Ghiselli's 1955 paper is devoted almost entirely to a discussion of the validity of his test of initiative.) "With line workers, there was a sharp reduction in initiative with increasing age, whereas with management personnel, there was a *slight increase*." (Emphasis added; p. 311.)

Ghiselli's principal correlate of initiative was not age, but "measures of self-assurance." And it was suggested that the upward mobility of persons who possess initiative would decrease their frequency among lower-status workers and that high-status jobs may be more effective in maintaining initiative.

However, Ghiselli did not discuss the factors that affect the initial distribution of "self assurance." It may be that line workers who possess initiative in their youth are more likely to lose it than to be rewarded for it by promotion into management. In other words, Ghiselli's results may involve a compounding of age and cohort effects of a kind similar to what was discovered regarding the age-dependence of intelligence.

There is considerable evidence that the effect of age on initiative and intelligence is influenced by the behavioral context in which a person has operated. But it is our view that much more needs to be learned about the consequences of alternative work environments for the development and maintenance of a wide range of work-related and nonwork-related skills.

Workers who have been particularly successful and who have been given significant responsibility are likely to be persons who not only possessed considerable motivation in their youth, but who are also in a position to preserve it into later maturity.

Unfortunately, the clientele for a program in mid-life redirection is likely to include persons whose previous employment was not the most satisfying and successful and, hence, the motivational problem in training programs for mid-life redirection is likely to be salient.

PROBLEMS OF TRAINING OLDER WORKERS

A recent study of job retraining within a major industrial corporation (Rosen, et al., 1965) indicates that age, education, and seniority interact in complex ways to affect a person's willingness to retrain. Apparently (p. 71),

> low education in combination with being 40 years old or older seems to restrain the worker from volunteering. On the other hand, low education in combination with being under 40 years old appears to *encourage* the worker to retrain. In both instances, the education influence seems considerably stronger for high-seniority men than for relatively low-seniority men.

This suggests that older and less-educated workers are considerably less confident in their ability to learn than younger, better-educated workers. To isolate the actual relationship between learning ability and age, however, experimental studies have been essential.

R. M. Belbin (1965) points out that the first major experimental studies of adult learning "arose during the early part of the present century when a few isolated papers appeared in Germany, Japan and the United States" (p. 19). The first truly significant work was that of Thorndike, et al. (1928), who demonstrated that while learning is possible over one's lifetime, it is increasingly difficult after early adulthood.

Those early studies sought to uncover the pure effect of age upon learning ability and, hence, sought to find learning tasks that are divorced from life experience. For that reason, studies involved the learning of "nonsense syllables" and similar tasks. And in these cases, significant differences in learning ability are apparent by persons in their late 30s or early 40s. However, a study by Sorenson (1930) of classroom performance (a real-life situation) showed only slight age differences. Of special significance was the finding that the effect of age on learning ability depends on the person's level of education—that is, *learning ability is affected by practice and experience.*

Since there are perceived difficulties in learning among older adults, it is important to uncover factors that may reduce or accommodate the difficulties. While information of this sort is limited, enough research has already been conducted so that a number of important findings may be mentioned.

There has been a suggestion that the learning ability of older workers is limited by difficulties of "short-term retention." However, a study by D. B. Bromley (1968) found no such differences in retention when three age groups (17-35, 36-55, and 56-74) were tested with a rote-learning task.

Wimer and Wigdor (1958) tested a group of young servicemen (average age 21) and compared them with a group of veterans (average age 72). They found that the veterans had more difficulty learning a list of associations, but recalled the list, once learned, as well as the younger adults did.

On the other hand, a number of studies indicate that retention by older persons is more easily reduced by the distraction of intervening activity (Wimer and Wigdor, 1958; Broadbent and Heron, 1962; Kirchner, 1958; Welford, 1958). The loss of retention following the intervention of additional knowledge has been called *retroactive inhibition.*

Studies by Kay (1959) and Entwisle (1959) also indicate greater *proactive* inhibition due to aging—i.e., the effect of experience prior to the learning activity. The Entwisle study is of particular interest. He observed that when a firm replaced its horse-drawn vehicles with motor vehicles, the ease of adaptation increased with years of experience among workers under 40, but decreased with greater experience among older workers.

It must be noted, however, that most studies have involved workers who do not normally rely upon mental acuity in their work and for whom the decline in learning ability over time will be most significant. Hence, as we consider the literature on training methods for older workers, we must be aware of the relatively greater weight given to industrial workers in these studies.

Nevertheless, there has been a generally disappointing record of performance in most programs of job retraining. It is clear that special counseling efforts are required if older workers are to be induced to enter such programs. Even when workers are displaced because of automation, many fail to respond to the opportunity to train for a new job. Studies by Daly (1963), Wilcock and Frank (1963), and others indicate this difficulty.

For workers whose jobs have not required constant new learning and adaptability, it appears advantageous to restrict training to occupations for which the worker's experience is of some value. By so doing, one reduces both the trainee's resistance and his proactive inhibitions.

These findings on inhibitions, both proactive and retroactive, the need for special counseling, and the like, imply that "aging" must simply be accepted as an unfortunate detriment to the *learning process* and that if our knowledge of the learning process were sufficiently complete, the accommodation of the learning process by appropriate teaching methods would obviate age-related difficulties.

M. S. Knowles (1972) stated the case clearly by pointing out that the classical tradition of teaching and learning—as typified by Confucius, Socrates, and Aristotle—was based on an "adult model" in which learning took place through dialogue and was a process of *discovery,* "learning by doing." That process emphasizes the integration of new ideas into the old.

The classical tradition "came to be labelled 'Pagan' and was, therefore, forbidden when monastic schools started being organized in the seventh century" (Knowles, 1972, p. 33). The Church based its teaching method on the need for obedient, faithful, and efficient servants. The method became the basis of "pedagogy," the *art of teaching children*.

In pedagogy, the information transmitted enters a relatively empty field, and need not interact with pre-existing knowledge. The empty field has the advantage that the content of the learning experience is more completely under the control of the instructor; for when the student possesses his own store of information, he not only may evaluate the new knowledge in terms of what he already knows, he may also *integrate* the new information in a complementary fashion, so that previous, nonconflicting information may become more meaningful and useful to him. The teacher who introduces material to a knowledgeable subject may fail to convey some of his explicit material and, simultaneously, enable the learner to gain new insights the teacher never intended to impart.

The didactic, Aristotelian method of instruction allows the teacher greater insight into the learning process, and permits the student to conduct some part of the knowledge-integrating process at the conscious level and to exercise some control over the rate at which new information is transmitted. The *concepts of the learning process* implied by the classical methods of instruction have now been rediscovered by students of adult education.

The basic experimental work on the adult learning process has been conducted in London by Eunice Belbin (1956, 1958). A particularly important discovery emerged from a study of propaganda (1956), wherein subjects were allowed to sit in a waiting room where road safety propaganda had been "incidentally" placed upon the walls. The subjects were shown pictures of traffic accidents and asked to comment on their road safety implications. It appeared that some subjects succeeded in responding to the propaganda without explicitly recalling it, while others did not respond, but could recall it. The tendency to allow the new information to become *lost* into a net of previously learned behavioral cues (respond but not recall) was significantly more prominent among older subjects.

That finding suggested to Belbin that older learners may tend to learn "for use" to a greater degree than younger persons. Moreover, an earlier paper by Speakman (1954) had indicated that older people may experience relatively greater advantages in learning "by using" as contrasted with rote memorization.

Eunice Belbin's propaganda experiment has led to further studies of alternative teaching methods. (Her early experiments are well summarized in her "Methods of Training Older Workers" (1958).) It would be useful to consider those experiments in some detail, because the controlled, experimental method of examination has seldom been used effectively in the study of mid-career learning problems; such methods could form part of a well-constructed pilot program in mid-life redirection.

In the first experiment, 44 workers aged 20 to 70, all of whom had left school at the age of 14, were given one of two methods of learning to sort mail. One method involved *memorizing* the relationship between a set of numbers on cards and the colored boxes into which the cards should be "posted." The second method allowed the subject to discover the color scheme for himself. Each was given a stack of numbered cards and told to post them into the appropriate colored boxes. The subjects were expected to learn the relationship between the numbers on the cards and their color. The length of time required to learn the color-number combination, the time taken to post the cards, and the number of errors were recorded.

The results showed that with "memorization," the required learning plus posting time rose with age in the 20s and 30s and then stabilized, while the proportion of subjects with completely correct performance fell between the 20s and the 30s and again between the 40s and 50s. With the "activity" method, performance time increased with age up into the 50s. Performance time was always less under the memorization method for all age groups, but the increase for older subjects was greater. Learning time, however, was greater for all ages with the activity method, and especially longer for older subjects. Hence, the reason for the relatively improved performance time of older subjects may have been more complete learning in the activity method.

A second experiment was then conducted to determine the source of the improved performance in the earlier experimental results. The task was to post numbered cards into a set of slots in a box. One group had to memorize the proper card designation by looking at slips attached to the box; the other group was given a deck of numbered cards each of which bore a picture of its slot designation.

The second method allowed the subject to learn the slot designation gradually as he placed the cards into the box. Subjects were timed on their learning rates and performance time, and the number of errors was noted. The *criterion* for each learning method was the amount of time required to learn to post 6 cards in 10 seconds. In this way the experimenter controlled the *degree* to which the tasks were learned in the two methods.

Younger subjects reached the criterion (target) more quickly using the memorizing method, and older subjects learned faster with the activity method.

> The difference between the age groups in time taken to attain the target time after the memorization method is composed of differences both in learning time and in time for performance at the main task. With the activity method, however, older subjects were inferior only in length of learning time. The performance time they required to reach the target once the task had been learnt was very little different from that of the younger subjects. (E. Belbin, 1958, p. 211.)

Belbin concluded that the generally observed decline in performance with age "may in part be due to the learning method imposed by the experimenter" (p. 211). Memorization methods place older persons at a distinct disadvantage; for that matter, it is important to select, for *any* group of students, a teaching method appropriate to their learning propensities.

Belbin's third experiment (E. Belbin, et al., 1956, 1957) represents an application of the activity method to a real industrial training situation. The task was to learn to identify and mend "faults" in woven materials. This task is of special interest because it had been maintained that persons *over 25* could not be so trained.

The traditional method consists of having the trainee stand alongside an experienced mender who teaches by demonstration and discussion. The process normally takes 6 months to 2 years. Belbin's method initially involved enlarged models of weaves in which faults could be more readily seen and corrected, followed by the use of magnifying glasses so long as they were useful. This method was successful in overcoming the greater difficulty experienced by older subjects in recognizing faults and in assessing the correctness of their mending.

Belbin concludes that there are four basic *factors to avoid* in the training of older workers:

- Conscious memorization;
- The need for "translating data from one medium to another" (Szafran, 1953, 1955);
- Difficult instructions; and
- Errors during the learning process that would have to be "unlearnt" later on.

R. M. Belbin (1965) has developed a schematic picture (Table 11) of age-related training difficulties and the suggested training implications (pp. 61-62).

Some of the suggestions in Table 11 merit further comment. Of special significance is the notion that one should avoid "translation from one medium to another." Translation problems had been encountered in experimental and training situations; the implication is that *audiovisual aids should be avoided* for the most part, since they usually entail a change in the "plane of representation."

The suggestion that simulated learning be closely related to real practice pertains not only to the translation problem, but also to the retroactive inhibition problem. Naive faith in the efficacy of simulation and visual aids may prove damaging; and since such tools are often sought by those who wish to be "innovative" in their teaching routines, such errors of technique are more than likely to arise.

The major lesson we may gain from the activity of the London researchers is that careful, detailed experimental work can be useful to the development of a pilot project in mid-life redirection. The experimentation should stress the possibility of generating learning experiences that flow naturally and most easily from the educational and work histories of the students.

CHOICE OF NEW CAREERS

The learning problems especially problematic for older workers have implications for the choice of new careers. We may set down the general proposition that the new career should be one for which earlier experiences have best developed the worker's necessary learning and behavioral capabilities, *other things being equal.* The importance of the proposition depends on the extent to which the worker has maintained flexibility and learning capability. Some people may have considerably greater potential effectiveness in their "best" option than in their secondary option; others may have a set of options in which their effectiveness will not vary greatly.

R. M. Belbin (1965) describes an effort in England to train people to operate power sewing machines. "Trainees in the 40's, 50's and 60's did not attain the ultimate output standards of production workers even after many months. *The only exceptions were a few older trainees who already possessed machining experience.*" (P. 49, emphasis added.)

Coleman (1955) provides another example of the problems in radical redirection: "Few older workers are interested or would be successful in starting a brand-new career in a new field of work. We have found it most practical to capitalize on the experience the worker already has." (Quoted by Belbin, 1965, p. 51.) The advisability of focusing retraining efforts on tasks complementary with the worker's experience

Table 11

PROCEDURES FOR OVERCOMING AGE-RELATED TRAINING DIFFICULTIES

Difficulties Increase with Age:	Suggestions on Suitable Adaptation of the Training Program
1. When tasks involve the need for memorizing	a. Avoid the need for conscious memorization. Often that can be done by using cues that guide the trainee, but their timing and placement are critical. b. Use a method by which a task is learned as a whole rather than as a series of discrete parts. If a task has to be learned in parts, they should be learned in cumulative stages. c. Ensure consolidation of learning before passing on to the next task or the next part of the same task.
2. When there is "interference" from other activities or from other learning	a. Restrict the range of activities covered in the course. b. Employ longer learning sessions than are customary for younger trainees. c. Vary the method of learning rather than the content of the course.
3. When there is need to "unlearn" something for which the older learner has a predilection	a. Ensure correct learning. b. Employ automatic feedback system to convince the older learner of his errors.
4. When there is need to translate information from one medium to another	a. Avoid the use of visual aids that necessitate a change of logic or a change in the plane of presentation. b. If simulators or training devices are to be used, they must be designed to enable learning to be directly related to practice.
5. When tasks are "paced"	a. Allow the older learner to proceed at his own pace. b. Allow him to structure his own program within certain defined limits. c. Aim at his beating his own targets rather than those of others.
6. As tasks become more complex	a. Allow for learning by easy stages of increasing complexity.
7. When the trainee lacks confidence	a. Use written instructions. b. Avoid using production material too soon in the course. c. Provide longer induction periods.
8. When learning becomes mentally passive	a. Use an open situation that admits discovery learning. b. Employ meaningful material and tasks sufficiently challenging to an adult.

SOURCE: R. M. Belbin (1965), pp. 61-62.

can also be socially justified on the basis of retraining cost, if the program is to be publicly financed.

The important question is the extent to which each successive occupational movement builds directly upon the experience of previous positions. In this context, an "orderly career" may be defined as a succession of jobs that are necessary and sufficient preparation for each new position. ("Necessary" here does not imply uniqueness.)

Given that definition, we can define several kinds of career "disorder." The two main ones would be: (a) a job change for which previous experience was largely unnecessary, and (b) a job change for which previous experience was not sufficient.

When a person accepts a job that does not make use of accumulated learning and experience, he or she almost always suffers a loss of income and status. Such changes, however, often result from the many factors that eliminate (or severely reduce) a person's employability in former occupations.

Many people also voluntarily seek jobs for which their previous experience is insufficient (and perhaps unnecessary). Their change in social status will partly depend on how useful their previous experience is to the new direction. If that experience was necessary but insufficient, their social status should improve; but if it was totally unnecessary, the change can induce higher status only if the previous experience was trifling or the required retraining very extensive.

Such considerations indicate two salient factors of job change that may concern those who construct a pilot program in mid-life redirection: the magnitude of the status change (especially when it is negative) and the magnitude of retraining requirements. From those two factors one may devise an index of the extent of career redirection associated with a job change. Both magnitudes will be small when previous experience is necessary and sufficient for the new job; when one or both are large, a *radical redirection* of career occurs.

As people age, job change is more and more likely to entail status loss. That is because (a) status normally increases with age (up to a point), so that losses of status threaten to be proportionately more serious, (b) new jobs that require considerable on-the-job training are less available owing to (often arbitrary) age limitations in hiring, and (c) as a person grows older, his or her experience and training become increasingly *specific* to a narrow range of options, thereby reducing the range of feasible jobs for which that experience is both necessary and sufficient.

For these reasons, a program to redirect the careers of older workers must deal with the serious matter of status loss. This represents a counseling task of the first order, especially since increased age is, itself, a source of lower status—compounding the effect of labor market changes.

Program planners must also understand the implications of a worker's life experience. Sidney Fine (1970) has developed a chart and analysis of "worker functions" that is important to this discussion.

The rows of Table 12 correspond to skill levels, the columns to skill types. The types of skill depend on whether the worker deals with data, people, or things in his work.

Fine makes it clear that the general advantage of older workers, as they compete with young workers in a new career, lies in the *people* dimension. Many older workers grow tired of, if not less competent in, jobs that deal only with data and things, and wish for a job that will free them from the "de-personalization and

Table 12

SCALES OF WORKER FUNCTIONS IN ORDER OF INCREASING WORKER QUALIFICATIONS AND JOB REQUIREMENTS

Degree of Complexity	Data	People	Things
High	Synthesizing Coordinating	Mentoring Negotiating	Precision working Setting up
Medium	Analyzing Compiling	Supervising Consulting; instructing; treating; coaching; persuading; diverting	Manipulating Operating-controlling Driving-controlling
Low	Copying Comparing	Exchanging information Serving Taking instructions--helping	Handling Tending Feeding
Basic	Learning Observing	Learning Observing	Learning Observing

SOURCE: Fine (1970), p. 44.

alienation that often characterize modern industry. . . . There is a sense of barrenness on the one hand and a sense of urgency on the other to do something worthwhile, and this usually means with people." (Fine, 1970, p. 51.) The opportunity to deal with people may even compensate for a loss of job status, and older people can bring useful human insights to such a job that they have acquired through the life experience.

Indeed, one of the major reasons for a worker's dissatisfaction with a career may be that the worker failed to, or for some reason could not, be promoted to a position wherein the people-monitoring and coordinating function would be prominent. Those who cannot obtain people-coordination as a reward for experience after a certain age generally find that they cannot capitalize upon their experience, and therefore begin to be less competent relative to young workers. In terms of Table 12, our argument suggests that purely vertical (upward) movements in the *data* and *things* dimensions are more inhibited by aging than are vertical movements in the *people* dimension.

An older person is more likely to achieve a successful redirection if the new job stresses the "people" dimension. This is not because older persons are unable to learn technical or manual things, but because younger persons have a comparative advantage in learning and performing such jobs and because, as mentioned, older people tend to tire of such jobs and lose competence.

A NOTE ON AGE DISCRIMINATION

The occupational placement of older workers is limited not only by their possibly diminished ability or motivation to learn new things, but by artificial labor market barriers.

The Department of Labor conducted a survey of five labor market areas in May 1964 in which it examined the age composition and employment policies of 454 firms. It was found that the propensity to hire older workers varied greatly from firm to firm, largely (it seemed) because of employer attitudes instead of discernible industry or company characteristics (Secretary of Labor, 1965b).

On the whole, however, the probability of obtaining new employment declined with age, for ages over 40, and dropped precipitously after age 45. The percentage of "new hires" among workers 40 to 44 was approximately the same as their percentage among the unemployed. "A marked divergence between those ratios began with age 45. New hires in the age groups 45-54 accounted for less than half the proportion of this age among the unemployed and those aged 55 to 64 only one-fifth." (Secretary of Labor, 1965b, p. 4.) Moreover, if one were to compare the "not precisely comparable" surveys conducted by the Department of Labor in 1964, 1962, and 1956, the results suggest that "the older worker's share of new hires may be diminishing" over time (p. 5).

Most firms in the 1965 survey indicated an absence of explicit policy on the age of new employees. Among those with a policy, however, those firms that had affirmative action programs performed best and those with maximum age limitations performed worst.

As we can see from Table 13, the ability of older workers to obtain new employment also depends upon occupational affiliations.

Table 13

AGE AND OCCUPATIONAL DISTRIBUTION OF NEW EMPLOYEES HIRED, 1964

(In percent)

Age	Total	Industrial		Service	Clerical	Sales	Professional	Managerial
		Skilled	Unskilled					
Under 45	91.5	84.8	94.4	87.5	92.7	88.1	84.4	92.8
45 and over	8.6	15.2	5.6	12.5	7.3	11.9	15.6	7.2
45-54	6.4	11.0	4.4	8.4	5.6	9.4	11.7	5.0
55-64	1.9	3.2	1.1	3.2	1.5	2.4	3.2	1.8
65 and over	0.3	0.2	0.1	0.9	0.2	0.1	0.7	0.4
Total	100	100	100	100	100	100	100	100

SOURCE: Secretary of Labor (1965b).

Using the "Total" column as a norm, it appears that the skilled industrial, service, sales, and professional classifications provide an above-average rate of new accessions among older workers. Of special note is the above-average ratio for professional and skilled industrial occupations, "reflecting long-standing shortages in these fields of work." (Secretary of Labor, 1965b, p. 6.) In addition, the fairly low-paying and unattractive service jobs show an above-average percentage of older workers among new employees.

Of the firms interviewed in the 1965 survey, about one in four had explicit upper age limits for one or more job categories. The distribution of these age limitations by type of occupation is shown in Table 14.

Although a few employers set age limits below 35, most limits pertained to those 45 and over. For a given occupation, the limits were usually the same for both men and women, but when (for a given firm) there was a difference in the age limit by sex, it was more often lower for men. On the other hand, limitations upon hiring people over 35 were much more prevalent for women than for men in all of the major job categories, except sales.

The commonest reasons given for these age limitations pertained to the physical strenuousness of the job (34.2 percent), but many mentioned the desire to promote workers from within (8.1 percent), the desire to avoid paying low wages to older persons (7.3 percent), and the higher pension fund costs associated with older persons (6.7 percent). Except for problems regarding pension plans, all of these reasons may be challenged as representing arbitrary discrimination against age groups. For one thing, many physically arduous jobs tend to contain a large percentage of older persons (R. M. Belbin, 1955); and studies of mail carriers and sorters, whose jobs are

Table 14

PERCENTAGE DISTRIBUTION OF ESTABLISHMENTS REPORTING
UPPER AGE LIMITS, BY OCCUPATION

		Upper Age Limit							
Major Occupation	Total	Under 35	35-39	40-44	45-49	50-54	55-59	60-64	65 and Over
Industrial, skilled									
Men	100.0	2.2	12.1	15.4	16.5	16.5	17.6	14.3	5.5
Women	100.0	8.3	11.1	8.3	11.1	16.7	22.2	11.1	11.1
Industrial, other									
Men	100.0	7.5	20.6	22.4	16.8	13.1	9.3	6.5	3.7
Women	100.0	11.5	18.0	14.8	14.8	14.8	11.5	8.2	6.6
Service									
Men	100.0	4.2	12.6	9.5	16.8	25.3	13.7	12.6	5.3
Women	100.0	6.1	15.2	4.5	13.6	24.2	15.2	15.2	6.1
Clerical									
Men	100.0	2.1	15.5	11.3	19.6	22.7	13.4	10.3	5.2
Women	100.0	4.5	19.1	10.9	16.4	24.5	11.8	8.2	4.5
Sales									
Men	100.0	13.5	14.9	12.2	10.8	20.3	13.5	12.2	2.7
Women	100.0	13.9	16.7	2.8	5.6	22.2	19.4	13.9	5.6
Professional and semiprofessional									
Men	100.0	2.6	16.9	6.5	18.2	20.8	19.5	7.8	7.8
Women	100.0	4.1	12.2	4.1	14.3	22.4	22.4	10.2	10.2
Managerial									
Men	100.0	3.5	15.3	16.5	12.9	22.4	14.1	10.6	4.7
Women	100.0	6.4	10.6	4.3	14.9	27.7	19.1	10.6	6.4

SOURCE: Secretary of Labor (1965b), p. 9.

more strenuous than many for which age limits are used, have shown that little loss of effectiveness can be shown prior to age 60 (U.S. Department of Labor, 1964). Unfortunately, there has never been a full examination of the behavior of firms as it relates to the development and evolution of the age distributions of their work forces. We can do no more than suggest that many standard operating procedures in this area can be shown to rest upon concepts that have little foundation other than tradition.

EARLIER EFFORTS TO TRAIN AND PLACE OLDER WORKERS

Thus far, this report has dealt with general problems to be expected in any program to re-employ or redirect the careers of older workers. The problems reflect a range of physiological, motivational, and institutional considerations; it would therefore be of special value at this point to consider how they were handled in earlier efforts to train and place older workers.

For this purpose, we shall make use of a single publication, *The Training and Placement of Older Workers: An Evaluation of Four Community Projects.* (Other contributions to this project will consider a much broader range of training programs.) This volume was edited by G. C. Somers and prepared in 1967 for the National Council on the Aging (NCOA) and the Office of Manpower Policy Evaluation and Research (OMPER) of the U.S. Department of Labor. The projects surveyed by the report were conducted in Boston, Baltimore, Buncombe County, North Carolina, and Milwaukee. While these projects dealt with the training and placement of older persons, they did not necessarily stress "redirection." On the contrary, when possible, the effort was to seek placements and training that complemented the worker's earlier experience. A focus on "redirection" would be appropriate only for a better-educated, intellectually more flexible, group than those featured in these programs. These four projects focused on disadvantaged or unemployed people over fifty whose primary disadvantage in the labor market was age.

The Baltimore project, commonly known as the Older Worker's Project (OWP), was launched as an "experimental and demonstration" project to provide subprofessional on-the-job training positions in community service organizations. The positions sought were lower-paying slots not in demand by younger workers and for which the agencies would be willing to underwrite some of the training costs.

Older workers were not interested in very-low-paying jobs, however, and the agencies were uninterested in training them. The whole project had been initiated without any pretesting of its feasibility. After reconsidering its objectives, the OWP sought to interest private business in its clients, but in so doing lost its experimental character.

> The OWP staff was dedicated but inexperienced and much of the year passed in learning unfamiliar technical tasks as counselling and job placement. The purpose of the Project was never clear. If the purpose were an experiment to test whether older workers could be placed in on-the-job training positions in public service agencies, the project lacked the rudimentary elements of experimental design. If the purpose were demonstration, there should have been more prior consideration of what would be demonstrated. The assumptions of homogeneity and willingness to accept low status and poorly-paid

> employment could have been subjected to pretesting. The basic question appears never to have been asked: 'Is there something unique about age which makes it more significant than other characteristics in determining the appropriate treatment of a group of workers [p. 9].'

The NCOA failed to offer any expertise to this effort and apparently acted as a dysfunctional intermediary between the OWP and the Department of Labor. Hence, the Baltimore experience was largely a lesson in faulty research design and administrative confusion.

The Boston project was initiated in April 1965 to provide more intensive placement services for people over fifty than would be provided by the state's Division of Employment Security (DES). The clients were to be referred to the project by the DES, and a nonreferred control group of people to be handled only by the DES was also selected.

This experimental paradigm was not properly effectuated, however, since the DES did not follow up its clients and, in any case, those persons referred to the project were above average in motivation and labor force orientation.

Moreover, the project failed to be effective in developing OJT slots, in spite of the importance of that effort to the project and the costs devoted to it.

> Older workers naturally have less incentive to invest in training in this way since their pay back period is short. As a result, these workers will prefer a job with higher starting salaries and little chance for advancement to one with a low starting salary and substantial advancement possibilities. . . . for the same reasons, employers are unwilling to train older workers . . . [p. 65].

Somewhat more success was obtained with institutional training. Only ten of those who had experienced this training could be located by the evaluators. Seven of them were women who had been forced to return to work owing to the death of their husbands, and one was a recent divorcee.

> From the comments we received from the interviewees, it was apparent that the women who were forced to reenter the labor force after years as housewives found the training program extremely beneficial. A number of these women reported that they had some anxiety about trying to find work when they knew that their skills were rusty or obsolete. They would be competing for jobs with young girls just out of secretarial school [p. 73].

However, the operative functions of the project were largely duplications of efforts commonly conducted by the DES. The initial effort to carry out a broad-range, multiservice approach failed, and only the placement and counseling efforts prevailed. Unfortunately, it was not clear why the multiservice approach was not more successfully implemented.

On the whole, the four older-worker projects illustrated a need for more careful planning and greater respect for the difficulties in training and placing older workers. Somers, et al. (1967), in the overall evaluation of the projects, were particularly distressed by the failure of these projects to provide effective "employment-oriented" counseling. The counseling featured by the projects was "primarily concerned with the clients' personal problems and with information about medical and community welfare services [p. 196].

Finally, although job training was not stressed in any of these projects, those efforts which were made did not seem particularly successful in improving the person's employability or earnings, the major exception being, as noted above, the training given to women who were returning to the labor force. But in these cases, it is difficult to develop a quantitative measure of benefit.

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Chapter 4

USING MANPOWER FORECASTS IN CAREER REDIRECTION PLANNING

by Laurence A. Dougharty

We took a three-fold approach in surveying the literature on manpower projections. First, we weighed the possible usefulness of manpower forecasting in the operation of a mid-life career redirection program. Second, we reviewed current manpower forecasts to see how well they might serve the purpose. Lastly, given the amount of information likely to be gained from current forecasting techniques, we sought to draw implications for the design of a pilot program in mid-life career redirection.

Two important potential uses of manpower forecasts are evident. First, they could identify occupations that will face abrupt declines in demand in the future. If the forecasts were accurate, they would give some idea of the numbers and distribution (both geographically and among skill categories) of people who would seek help from the program. Planners could then determine the appropriate scale, locations, and types of occupational training to be offered.

It would also be helpful to know even roughly how often such abrupt declines should be expected. If few are to be expected, for example, the program might be activated only to meet emergencies; perhaps it might be unnecessary to have a full-scale on-going program in all areas of the country. Obviously, however, the value of manpower forecasts under such a scheme will directly depend on their accuracy.

Secondly, manpower forecasts could help prospective career-changers to assess the probabilities of obtaining jobs in various occupations. We therefore examine the literature for information on what types of jobs will be available in the future, and attempt to determine whether reliable probability estimates of obtaining a job can be derived from such information. If current forecasts cannot yield those estimates, the choice of occupational training should rely much more heavily on personal interest and aptitude than on manpower forecasts.

ACCURACY OF MANPOWER PROJECTIONS

Manpower forecasts must be accurate and timely to be of value for redirection. Specifically, the program will need information on the future demand for occupational skills and how declines and increases in demand may affect clients' employment opportunities.

In this section, we review some of the estimates made in the past, and assess their accuracy. We attempt to discern what characteristics of the particular occupation under study, or of the research method, accounted for the greater accuracy of some estimates; those characteristics will be crucial planning variables for pilot programs.

Level of Aggregation

The level of aggregation of a manpower forecast appears to be directly related to its accuracy and inversely related to its value for a redirection program. Let us review some studies to see why that is true.

Swerdloff (1969) reviews the accuracy of manpower projections made in the early 1960s. (A comparison of the estimates made in the 1960s and revised estimates made in 1968 is shown in Fig. 3.) He reviews the major assumptions underlying those estimates and finds that many of them did not hold up during the decade. For example, one key assumption—the absence of war—was nullified by the Vietnam conflict. Nonetheless, Swerdloff contends (p. 21) that "The broad occupational employment trends projected in the 1960 report have materialized pretty well."

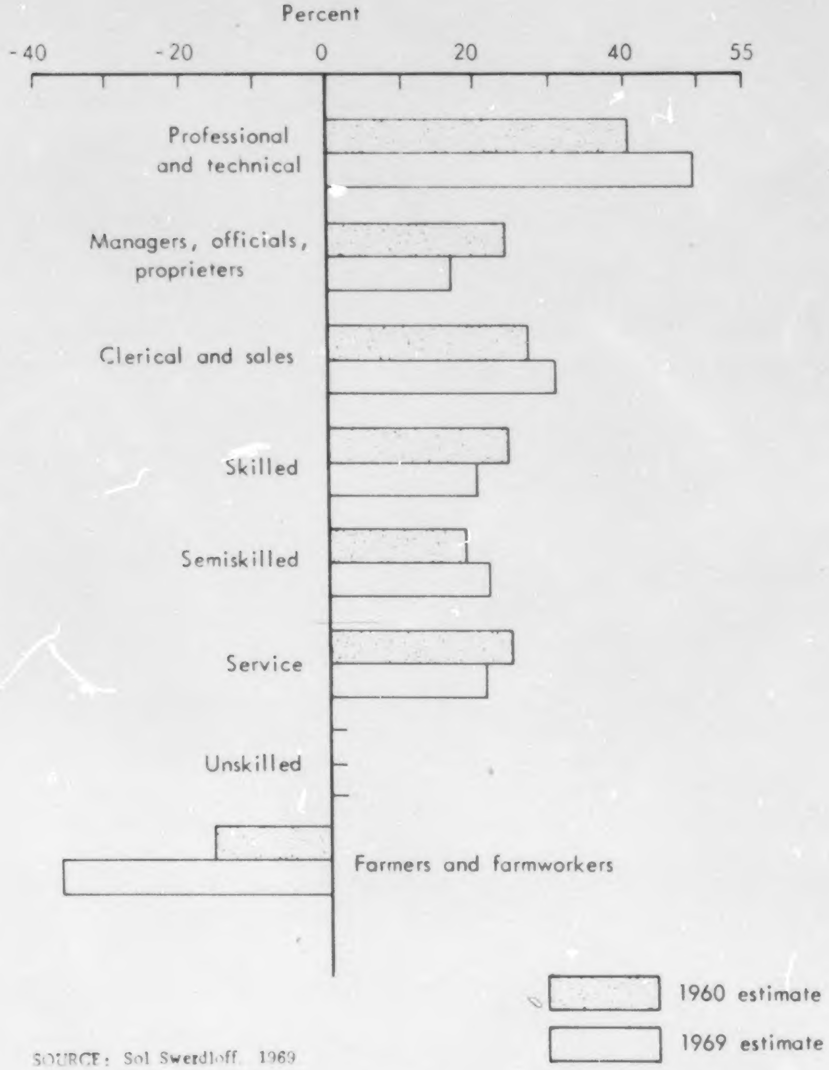
Such estimates are accurate enough for some broad program purposes. They reveal what occupational fields are growing in size and presumably offer the most promising employment opportunities (provided that excessive numbers of trainees are not attracted to those fields—a question taken up in the next section).

The high level of aggregation used in many estimates renders them almost useless, however, for the individual prospective career-changer. Aerospace engineers and schoolteachers, for example, are lumped together in the Professional and Technical group, one of the occupational groupings listed by Swerdloff. Both have seen a sharp decline in the demand for their services, although employment in the occupational group as a whole has grown steadily. Aggregate figures, then, can be a badly misleading guide.

Now, it should be stated that estimates of employment by occupation are made at a lower level of aggregation than that found in the occupational groupings listed by Swerdloff. In the study *Tomorrow's Manpower Needs*, for example (Department of Labor, 1967), the professional, technical, and kindred workers grouping contains over fifty occupational categories. As one gets into smaller categories, however, accuracy may be lost because a force that does not affect overall employment for the group may act individually on occupations. Some comments on how these estimates are made will clarify that phenomenon.

The primary technique used in forecasting the national demand for occupational skills is to estimate output by industry and then look at the skill-mix necessary to produce that output. The product of the estimated output and the skill requirements per unit of output is then the manpower forecast. It is easy to see how many of the forces affecting occupations in an occupational category may tend to balance out. Although a force might have severe repercussions for one particular occupation, it may have a small effect on the occupational category as a whole. (See Department of Labor, 1970, pp. 2-3, for a summary discussion of the projection techniques used by the Bureau of Labor Statistics.)

The variance in the estimates, when aggregated by industry, of course, will differ across industries because some industries are very volatile and others relatively stable. We are really not concerned with cyclical swings, however, which are expected by mid-life employees in a cyclical industry. In many cases, those employees will have protected themselves against cyclical swings through such mechanisms as the seniority system. Furthermore, since they may have been unemployed previously during one of the downturns, they may be better equipped to handle unemployment. That is, they will know where to go for benefits, counseling, and placement. (We



SOURCE: Sol Swerdloff, 1969

Fig. 3 — Percent change in employment by occupational group, 1960-1970

should note in passing that manpower forecasts do not generally attempt to estimate cyclical swings, but rather the secular trend in employment aggregated at the national level.)

Estimates of employment do not identify *geographic shifts* in production. Output of the textile industry may remain constant, while shifts in production to the South may leave many in the North unemployed. Estimates of skill-mix per unit output in such a case would not pick up the new demand for skilled workers in the South and the excess supply of skilled workers in the North. Regional discrimination in forecasting is therefore needed; it would furnish vital information for planning the size and scope of the redirection program.

We have not encountered any estimates of how declines in employment will affect the *distribution among age groups*. For example, though further declines in employment for primary and secondary schoolteachers are predicted, no estimate is available of how many teachers 35 to 50 years old will have to seek new employment. Again, without estimates of employment by age, it is not possible to estimate the required size of a redirection program.

Lastly, these forecasts are for the most part based on *predictable and slow-moving trends*. Mid-life people who are aware of those trends have the time and opportunity to protect themselves against future unemployment, perhaps by seeking privately financed redirection services. Consequently, the need for governmental redirection programs will most probably stem from shocks to the economy—sudden dislocations that leave people unprepared to cope with their loss of salable skills.

In short, national estimates are too aggregative to be valuable for mid-career planning. They do not specify what skills within an occupational group will bear the brunt of changes in demand, nor do they spot regional shifts in employment. They focus on trends that are predictable and slow-moving, although unpredictable, rapid, and radical dislocations in the economy are most likely to cause unemployment for people in mid-life. The estimates therefore fail to give the program planner information on the size and location of his potential clientele.

Characteristics of Demand

It appears easier to forecast the demand for some occupations than for others, but not enough data are available to test that hypothesis empirically. Further, there is some reason to believe that the forecasts are self-defeating prophecies (Swerdloff, 1966, p. 140). If a forecast says there will be a shortage of engineers and more people therefore train to become engineers, the shortage will not appear, but it is not really correct to say the forecast was inaccurate. Even though there is a problem in measuring accuracy, there do appear to be some characteristics in the demand for certain occupations that on a priori grounds would make surpluses and deficits in those occupations easier to estimate.

To assess the accuracy of manpower forecasts, one approach is to identify an occupation for which forecasting should be the easiest and most accurate, and use it as a standard for comparison.

The characteristics of demand that promote forecasting accuracy are:

1. Determinants of demand that can be forecasted with precision

2. Few or no available substitutes for the occupational skill
3. Demand heavily concentrated in one industry
4. Established relationship between labor input and output
5. Ready availability of data

One occupation that seems to have all those characteristics is that of elementary and secondary schoolteacher. The major determinant of demand for schoolteachers is the number of children of school age. The national school-age population can be estimated accurately for short periods (5 to 10 years), and data on the current supply of teachers therefore are also readily available. Only when there are radical changes in fertility do longer-term forecasts become hazardous. Migration, however, renders estimates of school-age population for particular regions less accurate than national estimates.

The determinants of demand for most occupations are typically more numerous and more complex than those for teachers. The demand for carpenters, for example, cannot be approximated by variables representing income and population. While those are certainly determinants of demand, many other variables such as interest rates, consumer preferences, building codes, and cost of building materials affect demand but are difficult to forecast.

There appears to be no acceptable substitute for the teacher, and the demand for teachers is concentrated in the public schools (unlike the demand for, say, secretaries, which pervades virtually all industries). Such concentration simplifies the task of the analyst.

In the teaching profession there is also a clear relationship between labor input and at least one measure of output, student-years. If that output is used, as it is in many studies, then only the student-teacher ratio need be known to calculate the number of teachers needed. A linear relationship between labor supply and output is not a common determinant of demand. In many other occupations, the relationship between the demand for service and the demand for personnel depends on the distribution of productivity among members of those occupations. For example, the demand for physicians' services does not directly translate into a demand for a certain number of physicians, because some physicians work faster or longer than others. One needs to know their average productivity before a demand estimate can be made (Dickenson, 1951).

In spite of the foregoing, forecasts of the demand for teachers hardly constitute an infallible touchstone. Consider, for example, a college freshman in 1969 reading the latest forecast prepared by the Bureau of Labor Statistics (Department of Labor (1969, pp. 12-13):

> Employment Trends and Outlook
>
> Employment requirements for teachers are expected to rise more than one-fifth during 1966-75 and reach about 2.7 million in 1975-76 because of increases in the growth of the school-age population, increasing attendance rates, and improvement in the pupil-teacher ratios. . . . Secondary school and college enrollments are expected to increase 30 percent and 65 percent respectively, partly because the school-age population at these levels is expected to increase. . . . In addition to manpower needs for occupational growth, many teachers will be needed to replace those who transfer to other occupations, die, retire, or leave the field for family responsibilities. . . . Each

> year the profession has an estimated net loss of between 6.0 and 6.8 percent of all employed teachers.

Certainly, nothing in that forecast would discourage our freshman from choosing teaching as a career. As he was finishing college in 1972, however, he probably turned rather pale if he read the following in the *Occupational Outlook Handbook* (Department of Labor, 1972, p. 213):

> The number of persons qualified to teach in elementary schools will exceed the number of openings if patterns of entry and reentry to the profession continue in line with past trends. . . . Many students . . . who are considering elementary teaching as a career will have to change their occupational choice and pursue other careers . . .

The surplus of teachers is documented in many other publications (Department of Labor, 1970a, p. 1; Van Dine, 1971; National Education Association, 1972).

It is not clear just what happened to change the tone of the forecasts between 1968 and 1972. Perhaps some of the assumptions of the first prediction turned out to be invalid. Unfortunately, the assumptions were not clearly delineated, so that an analysis of the error could be made. Nevertheless, in an occupation where demand should be fairly easy to predict, the coming excess supply of teachers was not seen far enough in the future, in this one forecast, to alter the rates of production. (A study by the Comptroller General of the United States (1974), however, noted that federal programs could have contributed to the oversupply through the programs that were instituted to deal with the teacher shortage in the early 1960s. It was argued that federal assistance may now be contributing to teacher surpluses.)

To continue the use of schoolteachers as an example, for the mid-life career redirection program we need to know not only the size of the surplus but how that surplus will be distributed among age groups. It is likely that the cost of excess supply of teachers will be borne by the younger entrants into the labor market because of the tenure system. Therefore we would not expect a large demand for redirection services from unemployed teachers. We could expect a demand from teachers who had left the profession and now wish to return. There are indicators of how many persons are qualified to teach and are between ages of 30 and 39 but are not in teaching positions (Carroll and Ryder, 1974); however, we have been unable to find any indication of how many of them are seeking employment in teaching. Moreover, because estimates of the supply of reserve teachers can vary by a factor of ten, we must conclude that the number of older teachers whom a redirection program might serve is not known with anything approaching precision (Carroll and Ryder, 1974, p. 97).

In summary, in an occupation where demand should be relatively easy to predict, we have discovered inaccurate and misleading projections and a failure to disaggregate the forecasts by age group. If forecasting cannot provide accurate and timely predictions for elementary and secondary schoolteachers, the prospects in other occupations are dim.

Characteristics of Supply

Many studies of occupational forecasts concentrate on estimating supply and neglect performing an equilibrium analysis of supply and demand. By supply, in most of the studies reviewed, is meant the inventory of personnel trained in a specific occupation. This differs from the economist's view of supply as the number of persons willing to work at various wage rates. (See Hansen, 1970.) The assumption is that the number trained is equal to the number employed, and therefore also that demand is not completely inelastic. It is further assumed that any increase in supply will not force wages down to such a point that those trained in the occupation could earn more in some other occupation. The last condition implies that this type of estimation method would be useful only for occupations that require a great deal of training for entry. In that case the short-run supply curve would be relatively inelastic, since alternative occupations would not be attractive.

The characteristics of supply that would make these types of studies accurate are:

- The major sources of supply (training institutions) are well known
- To change the capacity of the supply system requires a long time
- The training period for the occupation is long
- Data are readily accessible

The health occupations appear to have those characteristics. By reviewing some of the forecasts for the health occupations we hope to set reasonable bounds on the accuracy we can expect from supply-based studies in the manpower projections.

The supply of physicians in particular should be relatively easy to predict. The major sources of supply are well known. The American Medical Association publishes a list of approved medical schools, along with student enrollments. Immigration of foreign physicians presents an uncertainty but a minor one. Mortality rates can be estimated fairly accurately with actuarial data. There is the problem mentioned earlier in relating the supply of physicians to the supply of physician services, since not all physicians are equally productive. There are methods of adjustment based on the age distribution of the physician stock, however, that should give reliable estimates of the supply of physician services (Rimlinger and Steele, 1963).

Nonetheless, the accuracy of past estimates is not very impressive. For example, Perrott and Pennell (1958) estimated the supply of physicians to the year 1975, taking into account the current stock of doctors, the flow of medical school graduates and foreign physicians to this country, and death and retirement of physicians. They predicted approximately 260,000 physicians in 1967, when there were in fact 287,000 physicians under the age of 70 in practice in 1967 (Department of Commerce, 1970, p. 65)—an error of 10.5 percent.

What is true of national studies is also true of regional studies of professional personnel. Dei Rossi et al. (1971), for example, tried to estimate the future supply of dental manpower in Illinois. Their method was to assume that the migration rates of dental school graduates to other states remained constant over large increases in the size of the graduating class. They also assumed that the same percentage of out-of-state graduates migrated to Illinois. These forecasts of supply are made without any reference to economic conditions in the state of Illinois. Determinants of demand such as per capita income and the population of the state do not enter into the forecasting mode. Moreover, the policies of the other 49 states and the rest of the world are also excluded. Such a method will be reliable only if the determinants of demand and policy in other states on dental manpower stay relatively constant over the forecasting period. No evidence is given to support the position that no change in these omitted variables is indeed to be expected.

In spite of our severe critique, Dei Rossi's method is still probably the most cost-effective approach to the estimation problem. It is not clear from other research that more accurate estimates of professional manpower can be made, though more sophisticated approaches to the problem can be applied.[1] Any gain in accuracy with such methods appears to be quite small. Proper assessment of the value of increased accuracy, however, lies in establishing the loss function associated with forecasting errors.

A large literature on the spatial location of health manpower exists, but it is not likely to be of much help in planning a redirection program. Most models of spatial location appear to be more intent on explaining the present distribution of personnel than on forecasting the spatial patterning of personnel in the future. For example, in a study of the location of physicians in a particular area, one explanatory variable was the number of residents of a given state that were attending medical school in another state in 1954 (Fein and Weber, 1971, p. 256). This variable would help explain the physician supply in the given state but could not be used for projecting supplies in that state. Other models of the spatial location of physicians use population and income as major determinants. These are good variables to use in forecasting since they are slow to change, are fairly predictable by means of trend analysis and may be the major determinants of demand for physician services. It is hard to argue, however, that they are equally useful in predicting the demand for many other occupations, such as engineers, accountants, and welders, for which shifts in taste, technological breakthroughs, and government action play a major role in determining demand.

Many of those other occupations, especially in nonprofessional fields, have not received the extensive examination devoted to the supply of medical personnel. One reason, perhaps, is that the supply of services of other occupations is considered less socially critical than the supply of physician services. If there were a shortage of physicians, policymakers would be vitally interested in understanding the determinants of supply so that the stock of physicians could be augmented efficiently.

Perhaps another reason for the neglect of other occupations is that the data cannot support sophisticated research methods to test theories of supply. The only attention paid to most occupations is to be found in the forecasts prepared by the Bureau of Labor Statistics. For example, the occupation "molders, metal" is ignored in the professional literature, nor is there likely to be an interested audience of policymakers for such research. Policymakers are not as likely to be as concerned with trades that require only minimal vocational training as they are with skills that are both vital to the well-being of the nation *and* require a long time to produce.

In summary, we see that even in areas where supply should be relatively easy to predict, the forecasts have not been accurate or appear to possess doubtful validity. More germane to our interest, however, is the conclusion that the occupations for which supply forecasts would be relatively accurate are not those that would be much affected by a redirection program:

- First, these studies assume that demand is *not inelastic*, so that oversupply is handled through a reduction in wages rather than through unemployment. Therefore, in such occupations, not much unemployment ensues and a redirection program is unnecessary.

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[1] For example, Arrow and Capron (1959), which develops a model of the supply and demand for engineers in terms of a system of linear differential equations. The model is illustrative only, however, and no attempt is made to solve the equations.

- Second, the estimating methodology, which focused on supply alone, would clearly be invalid for occupations requiring short-term and general types of training. For example, if we trained paralegal aides in substantial quantities, wages might be forced down to a level comparable to that for clerical personnel. Many of those trained would seek employment in other occupations, being willing to jettison their now-futile training. Supply-based forecasts, then, are applicable only to occupations that require narrow and nontransferable training of relatively long duration.

ALTERNATIVE RESEARCH METHODS

The preceding discussion examined the accuracy of manpower forecasts in occupations where job openings are determined largely by either demand or supply considerations. This section assesses whether any research method holds particular promise for increasing the accuracy and reliability of information needed for planning and operating a redirection program.

Employer Forecasts

One way to estimate the future demand for occupational skills is simply to poll employers on their anticipated work force requirements. Ferber et al. (1961, p. 394) examines the accuracy of such forecasts in Illinois, and concludes that:

> Those preparing the anticipation seem to have little knowledge either of future operating schedules of the company or of forecasting techniques. The methods used are invariably elementary and rely heavily on personal evaluation. . . . The forecasters have an exaggerated idea of the accuracy of their anticipations. . . . Derivation of anticipations is frequently regarded as a marginal undertaking of the firm.

Given the accuracy of the forecasts (the average error was found to be 5 percent for 2-month forecasts), Ferber finds such forecasting techniques of questionable value (p. 391).

Another criticism of employer forecasts is that they lack a common base of assumptions (Helps, 1970). Even when some of the ground rules are given, the results are distorted because some employers are more optimistic than others.

The Engineering News-Record periodically surveys building contractors about employment in metropolitan areas across the nation. The contractors are asked if they are experiencing shortages in a range of skills—carpenters, bricklayers, and the like. For forecasting, such a technique has several disadvantages. First, the survey covers only deficits in skill categories; it does not ask if there is an oversupply in certain categories. Secondly, the contractor stands to gain by giving a dishonest answer. If he says there is a shortage he may attract skilled labor to his area, whereupon he could reduce his labor costs or at least assure himself a ready reserve of labor. There is good reason to believe that the answers actually are biased, since the surveys have consistently reported shortages regardless of the economic climate, the season, or the weather (Engineering News-Record, 1969).

Employer surveys typically have a very short time horizon. Since employers apparently are not much concerned even with short-run expectations, it is difficult to believe they would spend any more time preparing long-term employment projections. Such surveys, then, offer little hope of identifying skills that will be facing a large decrease in demand.

Goal-Oriented Projections

Many projections have been based on the manpower requirements to meet particular objectives (National Planning Association, 1968). For example, if the objective is to have one physician for every 800 persons, the forecasting question is how many more physicians we need.

Such projections are not very useful for a redirection program. They give no indication of whether the market will support the estimated supply at a price high enough to attract persons to that profession. Planning without integrating market factors can lead to an oversupply of personnel or overcapacity in the training system. Oversupply can be created when people choose an occupation on the basis of present wages, only to find later that the increase in supply due to the training program has more than met demand at that wage rate. Overcapacity can result when people recognize that the returns for training are not very high, and then decline to participate. In short, even if a planner concludes that a particular skill is "needed," the market may not endorse his judgment.

Consequently, studies of manpwer requirements based on the need to attain objectives should not be used as a basis for planning or operating a redirection program.

Trend Analysis

The commonest forecasting method is trend analysis. The basic assumption behind trend analysis is that conditions are likely to continue pretty much as they have for some time past. The accuracy of estimates produced by trend analysis, however, will depend on the assumption that supply and demand will be invariant to expected future excess or shortage of trained personnel. As stated in a study by the Bureau of Labor Statistics (Department of Labor, 1970a, p. 1):

> Supply and demand in this bulletin are not discussed in the usual economic sense in which wages play a major role in equating supply with demand. The long training period required to enter professional and technical occupations prohibits the immediate adjustments normally associated with the terms supply and demand.

Unless some adjustment for market reaction is integrated into the forecasts, we will be unable to estimate the effects of excess supply on the employment opportunities of persons at mid-career. Therefore, while these trend projections can sometimes point out a need for remedial action, they are not likely to be helpful in estimating the demand for redirection services.

WHAT CURRENT FORECASTS SAY

BLS Manpower Projections

The most comprehensive manpower projections are those prepared by the Bureau of Labor Statistics (BLS). (See Department of Labor, 1970b.) We review the general occupational trends identified by the BLS and then look specifically at occupations with the greatest projected growth and replacement needs in the next decade.

The BLS estimates (p. 22) that some 48 million job openings will arise between 1968 and 1980 because of occupational growth and replacement. Interestingly enough, the largest component of job openings—about two-thirds—is due to replacement of personnel rather than to growth in demand. Figure 4 depicts the distribution of job openings among the various occupational categories.

The largest increases will occur in white-collar occupations. The growth will be split equally between occupations that require extensive training (professional and technical, managers and proprietors) and those requiring minimal training (sales and clerical).[2] Blue-collar occupations are expected to have only 11 million openings. About half will be for craftsmen and foremen and may require extensive training, though no college.

The age composition of the labor force will change over the next decade in ways that should be favorable to the person at mid-life. The number of mid-career workers aged 35 to 44 will show a small decline. There will also be a sharp slowdown in the labor force growth rate among older workers, 45 to 64 years of age (Department of Labor, 1970b, p. 28). This implies that the mid-life person will face less competition for the middle management positions usually occupied by persons 35 to 44. Further, the opportunities for advancement appear better because of the slower growth rate in the age group that contains most senior executives. If the person at mid-life has not made it out of the lower skill echelons, however, he will be facing stiff competition from the 25 to 34 age group, which will be large owing to its being the result of the baby boom after World War II. These younger workers may be better trained, in which case it will be difficult for the more mature worker to hold his own unless he receives additional training.

The labor force participation rate is not expected to change much over the next decade for either women or men (Department of Labor, 1970b, p. 29). The participation rate of women in 1968 was 41 percent and by 1980 it is expected to be only 43 percent. The participation rate of women 35 to 44 is approximately as high as that of the 20 to 24 year range (Department of Labor, 1970b, p. 41). That is, after the downturn in participation during the childbearing years, many of those who worked before will return to the labor force. If they are to find jobs, it must be true that: 1) their skills have not deteriorated; 2) their jobs require only low-level skills that can quickly be learned on the job; or 3) the job taken at mid-life is at a lower skill level than the first job. Exactly which of these propositions will be true—or, more precisely, what proportion of women fall into each category—will influence the cost and composition of a redirection program. In the first and second cases there may be no

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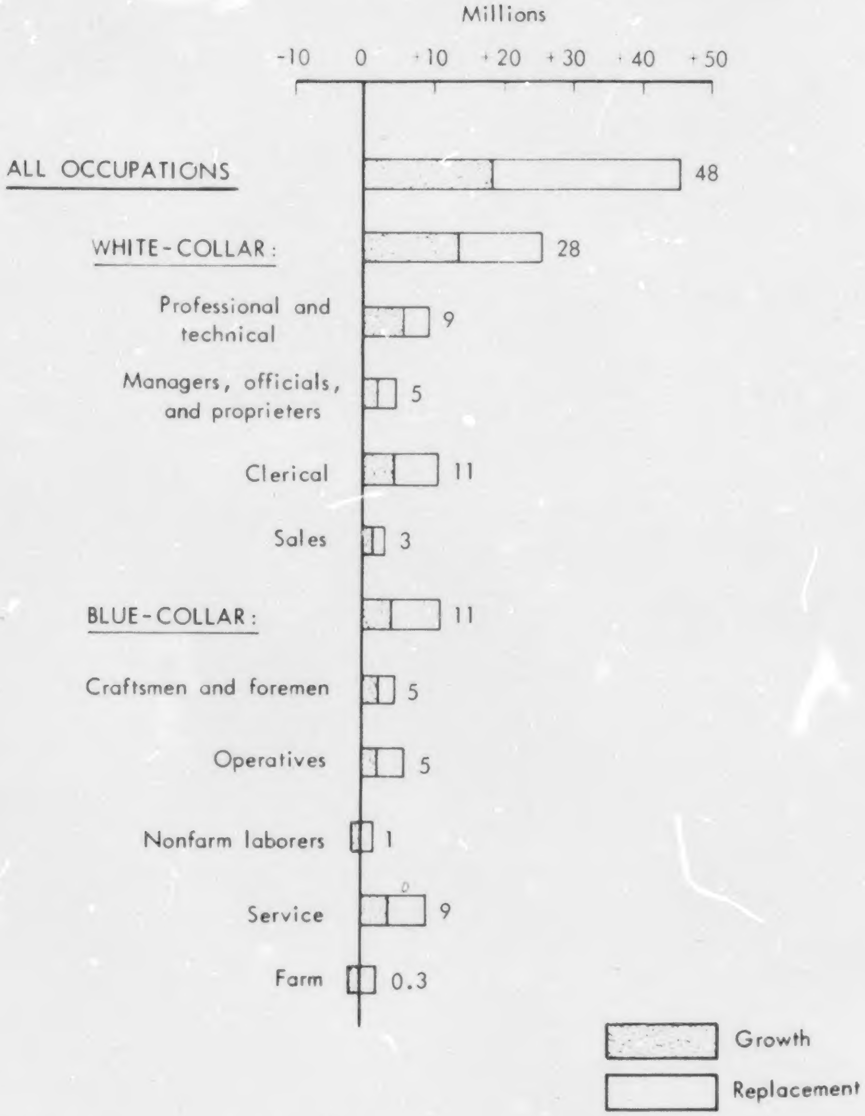
[2] This relationship between training and occupation is not strictly correct since some managerial positions require little training (e.g., manager of a hamburger stand), while some sales positions require extensive training (e.g., computer systems).



SOURCE: U.S. Department of Labor, 1970 b

Fig. 4 — Net job openings in major occupational categories and groups, 1968-1980 (projected for a services economy with 3-percent unemployment)

need for a program with a heavy training component, on the assumption that the woman is satisfied with her old career. In the third case, the woman may need training to regain or refurbish her old skills. This type of brushup training should not be costly. The mere availability of such a program may encourage many women to reenter the labor market since they know they can test and sharpen their skills before they are put to a competitive test.

There is virtually no information on the number of women who want to enter the labor force but believe they have no marketable skills. The only way to get it is through a careful survey or, better yet, a mid-life redirection pilot program in some test area.

Other Occupational Forecasts

Occupational forecasts are aggregated at several levels. The first level, previously discussed, is the skill level—professional, technical, etc. The next level deals with occupations within those skill categories.

In a list of forecasts for selected occupations (Department of Labor, 1970b), only three occupations show a decline in total employment: typesetters, farm workers, and nonfarm laborers. (See Table 15.) This illustrates one of the problems in using

Table 15

PROJECTED OCCUPATIONAL GROWTH AND DECLINE, 1968-1980

Occupation	Average Annual Rate of Change, 1968-1980
Rapid growth	
Systems analyst	9.1
Programmer	7.1
Electronic computer operator personnel	7.1
Pilot and copilot	6.7
Dental hygienist	6.4
Business machine serviceman	5.8
Medical laboratory worker	5.5
Hospital attendant	5.4
Licensed practical nurse	5.4
Oceanographer	5.3
Speech pathologist and audiologist	5.2
Slow growth	
Insurance agents and brokers	1.3
Gasoline service attendants	1.2
TV and radio service technicians	1.2
Carpenters	2.2
Inspectors (manufacturing)	0.7
Assemblers	0.7
Elementary school teachers	0.3
Nonfarm laborers	-0.1
Compositors and typesetters	-0.5
Farm workers	-3.4

SOURCE: Department of Labor, 1970b, p. 58.

these estimates to calculate probabilities of employment. It could well be that one could find employment as a farm worker if he were willing to accept the working conditions and wages. The downturn in employment may be a consequence of the fact that many people are finding that greater rewards lie in other areas and not because the demand for that skill has dropped.

Similarly, a high growth rate in an occupation does not necessarily imply a high probability of being employed. The probability of employment depends not only on the number of openings but also on the number of persons applying for those openings. It is argued that since we know little about what persons will be applying for various jobs, however, the number of job openings could be taken as a first approximation of the probability of obtaining a job in that occupation. To show some of the risk involved in such a strategy, it should be pointed out that a large increase in airline pilots was expected. (See Table 15. These forecasts were also made before the energy crisis caused layoffs in flight crews at many major airlines.) A number of the openings, however, may be filled by Air Force pilots who will be seeking jobs in the airlines after they leave the service.

A seemingly obvious conclusion one may draw from Table 15 is that it would not be wise to become a teacher. The number of openings is not expected to be large in the future. As previously discussed, it is not likely that school districts will change the method of production (mix of factor inputs) to make use of the plentiful supply of teachers. Yet several things could change even this prognosis. Early education of children and more special education for the handicapped appear as possibilities that could greatly increase the demand for teachers. For example, if two more years of early education were made available, the demand for teachers would increase by 15 percent if the same student-teacher ratio used in elementary school grades were kept in the early education classes. Since early education classes usually have much lower student-teacher ratios, the effect on the demand for teachers could be even greater. The same sort of reasoning could be applied to special education. Currently, only about half of the handicapped are being served (Kakalik, et al., 1973). Since the handicapped constitute about 10 percent of the population, it could be argued that some 5 percent of the school-age population could benefit from additional special education services. Since the student-teacher ratio is much lower in special education than in the regular classroom, there is another latent force waiting to increase the demand for teachers well above that which is predicted. Other teachers may find work in educating adults, including those seeking mid-life career redirection.

If one is concerned about the probability of finding and keeping a job, it is important to pick not only the right occupation, but also the right industry. Firms within a growing industry have more incentive to keep their personnel. Moreover, as new positions develop because of growth there are chances for mid-life career changes within the same firm. The employer may be willing to take a chance on someone whose work he knows first-hand, but would not take such a chance on a person off the street. Table 16 is a list of industries projected to grow most rapidly and least rapidly in terms of real output. Output is not a perfect indicator of employment opportunity because of differences in the productivity of labor among industries (i.e., a growth in output does not necessarily translate into a commensurate increase in labor input). However, real output should be a rough guide to employment security.

In essence, manpower forecasts can give only a preliminary indication of the

Table 16

INDUSTRIES EXPECTED TO GROW RAPIDLY AND SLOWLY IN REAL OUTPUT, 1965-1980

Industry	Rank	Growth[a] (%)
Rapid Growth		
Services economy		
Office, computing, and accounting machines	1	10.3
Optical, ophthalmic, and photographic equipment	2	8.8
Electronic components and accessories	3	8.4
Communications except broadcasting	4	7.0
Plastics and synthetic materials	5	6.8
Electric, gas, water, and sanitary services	6	6.7
Service industry machines	7	6.5
Rubber and miscellaneous plastics	8-9	6.3
Business services	8-9	6.3
Radio, television, and communication equipment	10	6.2
Durables economy		
Office, computing, and accounting machines	1	10.9
Electronic components and accessories	2	9.3
Optical, ophthalmic, and photographic equipment	3	9.0
Radio, television, and communication equipment	4	7.0
Communications except broadcasting	5-6	6.9
Service industry machines	5-6	6.9
Plastics and synthetic materials	7	6.8
Research and development	8	6.7
Electric, gas, water, and sanitary services	9	6.6
Rubber and miscellaneous plastics	10-11	6.4
Slow Growth		
Services economy		
Leather tanning and industrial leather products	1	-0.3
Footwear and other leather products	2	1.4
Agricultural, forestry, and fishery products	3	1.5
Coal mining	4	1.8
Primary iron and steel manufacturing	5	1.9
Forestry and fishery products	6	2.0
Tobacco manufacturers	7	2.3
Iron and ferro-alloy ores mining	8	2.5
Livestock and livestock products	9	2.8
Agricultural products except livestock	10	3.0
Durables economy		
Leather tanning and industrial leather products	1	-0.4
Footwear and other leather products	2	1.2
Agricultural, forestry, and fishery services	3	1.5
Coal mining	4	1.8
Tobacco manufacturing	5	2.2
Primary iron and steel manufacturing	6	2.2
Forestry and fishery products	7	2.5
Livestock and livestock products	8	2.7
Agricultural products except livestock	9	2.9
Iron and ferro-alloy ores mining	10	3.0

SOURCE: Department of Labor, 1970b, p. 46.

[a] Assumes 3 percent unemployment.

availability of employment in a specific occupation. The probability of employment is only one variable in making a career choice, however. The cost of attaining the required skills for employment is also important. The mid-career applicant will want to know the costs of transition among occupational categories. A completed cost-transition matrix of the type suggested in Fig. 5 could be of invaluable assistance to the mid-career applicant.[3]

Occupations would be shown on both the horizontal and vertical axes. The career-changer would first locate the vertical column-head representing the occupational training he currently possesses. He would then read across the rows to find the estimate of the costs (in time or money or both) necessary to acquire entry-level skills in some new occupation. Cost estimates close to the diagonal should be fairly small, because they attach to pairs of occupations that require similar skills.

It is enormously difficult to construct such a table with any precision, but a rough approximation could be constructed without much difficulty. The Occupational Outlook Handbook (Department of Labor, 1972) lists the total training requirements for a large number of occupations. Any of a person's current training that is applicable to a new job therefore should be subtracted to arrive at the net remaining requirements. The mere grouping of similar occupations may enable the person to see prospects he can pursue at little cost.

Other variables that enter into the decision on what field to train for are interest and aptitude. It can be presumed that a person contemplating a job change at mid-life has more information about other occupations, and about personal talents and limitations, than does a person on the threshold of his working life-career. (But that presumption should be tested in a pilot project. If the person does have more knowledge about other occupations, the redirection program would not need a large counseling component.) If so, such a person is more likely to select an occupation he or she is genuinely interested in and can succeed in. The objective is not merely to help the person find employment, as it seems to be with training for the disadvantaged, but to get the person into a job he or she is satisfied with.

In summary, manpower forecasts will not give much guidance to appropriate training in a mid-life career program. They cannot give reliable estimates of the probability of being employed once training has been completed, except in very special cases. Neither can the forecasts give much information on the longevity of a career. Most of the forecasts extend only a decade in the future; beyond that, uncertainty becomes so great as to preclude further usefulness. Ten years, however, is not a long time in terms of a career. The longevity of a career will depend as much upon the person's ability to adapt to changing demands within the career as upon the demand for the occupation itself. An engineer today is not the equivalent of an engineer ten years in the future unless he keeps abreast of his field. There are programs, such as university extension courses, to deal with the problem of technical obsolescence. It is possible that failure of those other programs, as well as personal failure to adapt to change, would cause the need for a mid-life career program. Those themes are touched upon in Chapters 1, 2, and 3 above.

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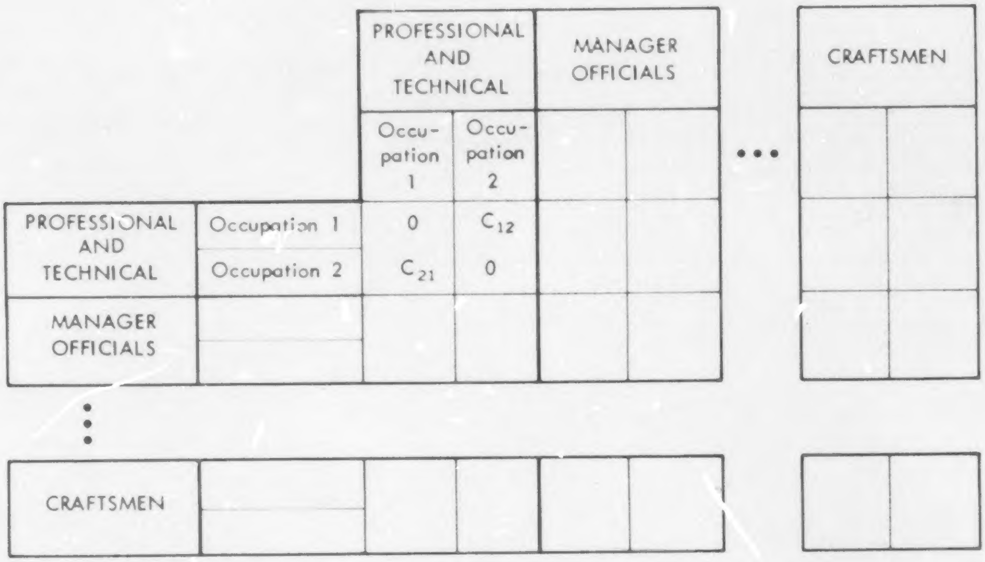
[3] Education and training requirements for certain occupations have been estimated and could be utilized in filling in such a matrix. See Eckhaus, 1964, pp. 181-190, and Scoville, 1966, pp. 387-394. These articles present estimates of the general and specific training necessary for each occupation. The articles report gross requirements and not the incremental or net training requirements to shift among occupations.



		PROFESSIONAL AND TECHNICAL		MANAGER OFFICIALS		• • •	CRAFTSMEN	
		Occupation 1	Occupation 2					
PROFESSIONAL AND TECHNICAL	Occupation 1	0	C_{12}					
	Occupation 2	C_{21}	0					
MANAGER OFFICIALS								
⋮								
CRAFTSMEN								

Fig. 5 — Hypothetical matrix of incremental training costs to be borne in switching occupations

POLICY IMPLICATIONS

The review of the literature on manpower forecasts was undertaken to determine their potential usefulness in the planning and operation of a redirection program. Most of what has been revealed through this survey is tentative, but it has exposed hypotheses that can be explored in a pilot program. We summarize them below.

Redirection Programs on an Emergency Aid Basis

Forecasting techniques are most accurate when the forces affecting employment are known, predictable, and slow-moving. When they are, mid-life employees are likely to be aware of them and have ample time to search for other training and employment on their own initiative, without needing a redirection program. It is a different matter when major reallocations in the economy occur, such as a drastic reduction in defense expenditures, or an energy crisis. Such events can swiftly create unemployment for skills that cannot be absorbed into other parts of the economy, but they have not been accurately predicted in the past.

If a redirection program were devised primarily to help victims of radical shifts in the economy, the size of the program could vary over time and regions. This would imply that the program would encounter large administrative costs if it were implemented in all areas on a continuing basis; the rather limited continuing demand for program services could not support so large a program apparatus. In this case, the program might best be designed to work through an existing agency on an emergency aid basis.

Minor Importance of Manpower Forecasts in Training Plans

At best, manpower forecasts can estimate the number of job openings in a particular occupation in the future. They do not, however, give any indication of the number of persons who will be applying for those jobs. Because of inability to predict the probability of employment with a high degree of accuracy, manpower forecasts cannot be exclusively relied upon for either counseling of applicants or for decisions about whether to sponsor training in a given occupation. Variables such as interest and aptitude should play a large role in the selection of a training program for a person, and the aggregation of such preferences (suitably adjusted by post-program experience of completors) should influence training course offerings.

If we accept the conclusion that manpower forecasts are not accurate guides to future employment, then we must admit that the government is not in a position to prescribe the training to be undertaken based on such forecasts. Therefore, fixed investment in particular types of training facilities would not be advisable. The reasons are twofold. First, as just stated, employment probabilities cannot be accurately predicted. Training a person in a field and encouraging the unrealistic expectation that employment will be forthcoming is psychologically harmful to the client and economically inefficient. Secondly, it is not clear that the government can accurately gauge changes in the labor market and alter the training program to meet those changes. There may be too much inertia in a government-operated training facility to make transitions among occupational training categories with anything near the speed that would be required.

Individual Purchase of Training Through Vouchers

The diversity of skill training needs, when confounded by the geographic dispersion of potential clients, argues that a government-operated facility is not likely to be able to capture the economies of scale that are available. Possibly, the redirection program might best be modeled after the GI Bill or the Vocational Rehabilitation Program, in which training services can be purchases in the free market. The latter program uses a restricted form of voucher since the sponsoring agency, not the individual, contracts with the training agency. Whether one would want to go to a full voucher, as is used for GI Bill educational benefits, is really the subject of another study, one which could be based on data from the kind of pilot program recommended in Chapter 11. An objection to the voucher is clearly overcome in the case of the redirection program: the clientele are probably well enough informed about the job market and confident in their ability to make rational choices among training organizations. There are other objections, however, such as the possibility that training organizations would need to be licensed to reduce "hucksterism." That possibility calls for more investigation in a pilot demonstration program.

Future Research Needs

Two research needs must be met if manpower forecasts are to be useful in a redirection program.

Little information is available on the costs of transition among occupations. All the literature on manpower forecasts and training appears to have been written with the new entrant into the labor market in mind. No information was found that informs the person at mid-career of the costs involved in learning new skills. We have suggested that more research be done in constructing a training cost transition matrix resembling the one in Fig. 5.

The potential value of this information can be tested in a pilot program. That is, we can find out if applicants are already aware of the relative costs of moving between occupations, and if the information contributes to better decisionmaking.

Employment forecasts by age are needed. Even when a surplus of workers is predicted, there is no indication how that surplus will affect the employment prospects of people in mid-life. In some occupations, seniority systems will preserve their jobs. In other occupations where there are no such systems and productivity is inversely related to age (e.g., jobs in which physical strength is important), the impact on persons in our target group might be severe. If the demand for labor in the occupation is very elastic, the problem of excess supply may be "solved" by lower real wages rather than by unemployment. In that case the person may have the time and perhaps sufficient resources to train for an occupation in which wages are not depressed.

In brief, occupations characterized by elastic demand for labor probably will not generate a strong demand for emergency redirection services. The literature on manpower forecasts, however, does not distinguish among occupations by elasticity of demand, since the wage rate is usually held constant. Therefore, although forecasts give some indication of where supply exceeds demand in an occupation, they do not specify how mid-life workers—or any particular age group—will be affected, nor do they distinguish between various types of demand curves for the occupation.

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Part II

MANPOWER AND EDUCATIONAL PROGRAMS: THE EXPERIENCE

Chapter 5

GOVERNMENT SPONSORED PROGRAMS

by William Dunn[1]

INTRODUCTION

The literature on government sponsored manpower programs strongly reflects the changing priorities of the sixties that occurred as a consequence of the civil rights and antipoverty movements (Levitan and Mangum, 1969, pp. 8-9). The resulting transformation of the Area Redevelopment Act (ARA) of 1961 into the Manpower Development and Training Act (MDTA) of 1962 led to a substantial expansion of the training offered under the program. Originally conceived as central to U.S. manpower policy, the ARA was, in fact, small in scope (less than 12,000 people enrolled per year) and was overshadowed and eventually superseded by MDTA programs. (Hardin and Borus, 1971, pp. 3-11; Patrick, 1969, p. 20.) The MDTA was amended in 1963, 1965, and 1966. It has been the largest federal manpower program, with a total of $2.2 billion appropriated for training by fiscal 1973 (Department of Labor, 1974).

The original target group of unemployed family heads with a history of at least three years participation in the labor force evolved into a new target group composed of young minority group members with little or no work history. Because the population that is expected to participate in a mid-life redirection program will already have a work history, the early portions of this literature are as useful as the more recent portions, despite the refinement of the techniques and proliferation of issues that occurred as the experience of the institutions and investigators grew. Some of the later changes, such as the increased accuracy and comparability of the studies due to agreement upon the most appropriate definitions for benefits and costs, are of direct interest to this review since the programs are more accurately assessed. Studies that dwell on other newly addressed issues, such as redistribution and displacement effects, have been excluded from this review because they attempt to assess the equity and net impact on total employment of the manpower programs, rather than use more direct measures of effectiveness such as trainee income changes or trainee placement.

For a program designed to create individual career change in a specific direction, it may be preferable to use placement in a training-related job as the only outcome variable, since the career-changer is sometimes willing to accept an income loss. Over time, the literature has come to define program outcomes as earned income increases subsequent to training, in comparison with the incomes of a control group, without regard to the similarity of the job obtained to the training given. That measure makes sense for the evaluation of programs serving the young, many of whom would be unemployed otherwise and who have no special attachment even to the career they are being trained for. It does present problems in judging whether the characteristics of a program designed to increase the income of its trainees will be as useful in retraining the mid-life career-changer. Income may be increased by either higher wages or less unemployment. Regardless, the dominance of the "income increase" approach in the literature made it impossible to exclude studies using that measure, and some caution therefore must be used in predicting which program characteristics will be most useful in a program for mid-life career redirection. That is not an overriding concern, however, since manpower strategies that are effective in achieving income increases or increased stability of employment are likely also to be effective in the placement of mid-life clients.

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[1] With contributions by Lawrence S. Olson.

The internal and external validity of a publication was assessed at the time it was first examined, by applying a standard checklist of questions to the piece to assure that it had sufficient validity to be included in the review. The checklist instrument was designed to accommodate unusual or nonquantitative considerations in assessing a publication. Thus, if the publication relied upon unorthodox types of evidence whose characteristics or manner of collection were sufficiently convincing to the reviewer, or if the study referred to the evidence of other studies, it was included. The purpose of the checklist was to abstract and simplify for the purposes of aggregation and comparison. They do not necessarily yield fair summaries of the articles reviewed.

INTERNAL VALIDITY: SCIENTIFIC ADEQUACY OF INDIVIDUAL STUDIES

This section lays out the basic theoretical framework necessary for evaluating any manpower program. For more detailed and extensive discussion, see Borus and Tash (1970) for the most complete overall treatment of applicable manpower and human capital theory, and Stromsdorfer (1972), Hamermesh (1971), Hardin and Borus (1971), Lindsay (1971), and Harberger (1971), for a fuller treatment of some of the subissues. This section presents a broad outline of applicable theory that synthesizes findings from various schools of thought and represents the standards against which any publication in the body of literature may be judged.

The major justification for any manpower program must come from its effect on outcome measures—usually post-program earnings in the literature. The most commonly used measures of effectiveness are benefit/cost ratios, internal rates of return, and net present values calculated by means of these earnings. Debate continues over which is the most appropriate, but the nature of most manpower programs renders such debate unimportant. In the case where an appropriate, criterion interest (discount) rate can be found for comparison, and where the cost/benefit stream consists of a continuous period of net costs followed by a continuous period of net returns, all three measures will give the same answer. Following the practice of the studies being reviewed, these terms will be used interchangeably.

Definition of Program Costs and Returns

Regardless of which of the three indices of program effect a researcher uses, it is necessary to calculate costs and returns. "The costs of a manpower program most properly should be considered to be the program's opportunity cost—the value of the alternative benefits which are forgone because of the program." (Borus and Tash, 1970, p. 51.) Such costs include the return from the highest-valued forsaken option for the participants' time (including the value of their leisure if they are unemployed), the time of staff and instructors, and imputed rental for buildings, equipment, and government funds.

Essentially the same considerations apply to program returns or benefits. Returns are defined as the difference between the earnings outcome a client would have attained without the program and the earnings outcome he in fact achieved by participating.

Indices of Program Costs and Returns

Four different indices of monetary costs and benefits are used in the surveyed literature: (1) employment or unemployment rates; (2) hourly wages; (3) yearly earnings or yearly income; and (4) government revenues saved. Each may be useful, depending on the perspective taken, e.g., individual, social, fiscal. All four measures implicitly assume that (a) only monetary differences are important (that the nonmonetary attributes of employment do not differ between the trained and untrained), and that (b) wage, employment, or earning differentials reflect actual differences in productivity. We next discuss a number of issues that tend to complicate the measurement of benefits and costs in manpower programs.

Control Groups

There are a variety of methods for determining what program participants would have earned had they not participated, and thus what their forgone earnings and their returns from the programs are. A commonly used method, which is either implicit or explicit in many of the reviewed studies, is the before/after comparison. It is inaccurate, however, for at least two reasons. First, it can bias results if the two periods occur in different phases of the business cycle (Stromsdorfer, 1972, p. 38). In particular, because more studies cover a period when employment was increasing, before/after comparisons have generally overestimated benefits relative to costs. Second, participants usually received low earnings or were unemployed before they entered training.

Both differences are ameliorated somewhat by the use of control groups. Borus and Tash (1970, pp. 16-17) put the problem clearly:

> Since it is impossible to measure after an event what would have happened if the event did not occur, the evaluation must usually rely on the use of control groups whose experience, behavior, and attitudes after the program correspond to those which the program participants would have had if they had not entered the program.

Once a group of controls is selected, returns and forgone earnings costs can be measured by the difference between the participants. But even this apparently straightforward method encounters the problem of how to define participant and control groups. Some of the studies, for instance, use dropouts as controls (see Table 17 below), which assumes that temporary enrollment in the program had no effect and that dropping out had no value as a predictor of motivation or of the value of alternative uses of time (Borus and Tash, 1970).

Life Cycle Pattern of Returns

A serious theoretical problem surrounds the probable time pattern of the stream of benefits. In the literature on the economics of education, it has been noted that earnings differentials between any two adjacent schooling groups increase over time. (See, for instance, Becker, 1964, p. 71). This differential arises from a mixture of the effect of schooling and the effect of on-the-job training (OJT); people with higher levels of education also have more opportunity to learn on the job. However, we are still left with a major difficulty. Most of the studies reviewed base their estimates of the returns to training on data measuring less than two years of post-training earnings. They then project these differences into the future in either a flat or a declining form (e.g., 5 or 10 years of benefits at the estimated rate followed by zero benefits in later years). If the situation for training were strictly analogous to that for schooling, any rate of return or benefit/cost ratio estimated from this type of benefit stream would be a serious underestimate. There is, however, at least one theoretical reason to expect that differentials attributable to training programs will not rise as sharply as those attributable to schooling, and may even fall. Post-school training is usually intended specifically to prepare trainees for a particular job and therefore is probably less flexible than schooling on the average. Thus, changes in technology and product demand can be expected to erode the positive earnings differential due to training more rapidly than the differential due to schooling.

Distinction Between Private and Social Costs and Benefits

Earlier parts of this section mention various theoretical procedures for measuring the stream of program costs and the stream of program benefits. A crucial distinction that the literature often does not carefully make is that between *private* and *social* or *governmental* measures of these streams. In general, a private benefit or cost measure estimates a program's effect on the amount an individual receives or spends. A social benefit or cost measure estimates the effect on society as a whole.

A particular type of distortion arises when a benefit or cost to one individual affects the welfare of others; this effect should be included in the calculation of social and governmental benefits or costs. The technical name of such an effect is "externality." Three examples from manpower training literature are:

1. Displacement of an employed worker by a newly trained worker (a negative externality);
2. Placement of a newly trained worker in an occupation that is experiencing a true shortage with concomitant increase in the demand for complementary factors of production—a production multiplier effect (a positive externality); and
3. An increase in the overall flexibility of a labor market due to training that moves people into occupations where they are more mobile (a positive externality).

EXTERNAL VALIDITY: GENERALIZABILITY AND AGREEMENT AMONG THE STUDIES

Many of the studies conducted for the Federal Government in the past decade have been evaluations of a single training program or a set of similar programs. These evaluations have most commonly been formulated as cost/benefit assessments. Less commonly, reviews of these studies have been commissioned to determine, on a more general plane, the relative effectiveness of the various approaches that can be distinguished as different either in method or in target population. Most of the reviews have found that the programs cannot be unambiguously ranked in effectiveness because of the differences in definitions of costs or benefits from study to study and the enormous variations in effectiveness within the program. The most ambitious of these reviews improves comparability, but found that the results of past cost/benefit studies are unreliable for program evaluation (Nay, et al., 1973, p. 255). The authors go on to describe the ranking of programs they said would be appropriate if intraprogram variation were not so high. Their results are:

1. MDTA/on-the-job training (2 studies),
2. MDTA/institutional (9 studies) and Concentrated Employment Program (2 studies),
3. Job Opportunities in the Business Sector (5 studies), and
4. Job Corps (9 studies) and Neighborhood Youth Corps—out of school (4 studies).

The ranking is displayed here despite the authors' expressed lack of confidence in it, because it is consistent with a similar study by the General Accounting Office that reviewed selected federal manpower training programs (Comptroller General of the U.S., 1972), and a study for the Subcommittee on Fiscal Polity of the Joint Economic Committee (which included some of the same studies as Nay, et al., 1973, and Goldstein, 1972). Therefore, although no single examination of the literature felt confident in its interstudy and interprogram comparisons, the agreement among the reviewers is strikingly high and suggests that more confidence should be given to the above ranking than any individual publication would assign it. Below, we provide a sample of findings from individual studies that demonstrates the interstudy consistency. The study of most direct interest to our review here examined thirteen MDTA experimental and demonstration projects for older workers (Leiter, 1968, p. 4). The lower age limit ranged down to 35 for only one of these projects, while three began at 40 and seven at 50 years of age. All but one included at least some portion of the mid-life age group defined in this review as 30 to 55. Their most effective strategy was the use of volunteers for job search and direct referral of participants.

Several projects attempted to develop MDTA courses for their clients but found it very discouraging because of legal and administrative problems. Seven also planned significant OJT programs. Employer response was described as poor, but not uniformly negative; it was attributed to cumbersome OJT contract procedures and to age discrimination. "Nothing the projects attempted to do took so much labor and bore so little fruit as these efforts to place older workers in on-the-job training" (Leiter, 1968, p. 33). Other findings of interest for program design purposes were:

- Many of the applicants required no services other than job placement.
- The employment service professionals attached to several projects dis-

played no conspicuous advantage over nonprofessionals in serving the older worker.

- Educational deficiencies among participants were not a problem.
- Professional, managerial, and white-collar supervisory workers had the most difficulty finding jobs because "they were unrealistic and unbending."
- Training was little used and ineffective because no courses were available at the proper time, they lacked diversity, and there were inconvenient lags from date of referral to testing to acceptance and to learning of the course.
- There was poor employer response to an attempt to create OJT job slots.

All of these program experiences seem to have direct application to mid-life career redirection, with the possible exception of the "unrealistic and unbending" attitudes of the white-collar professionals and managers. The most likely explanation for this group's difficulties lies in the loss of status and income that they inevitably incurred. Since most program clients would be volunteers, it seems unreasonable to believe they would be unbending. This experience does suggest that this group might benefit more than others from counseling at program entry to encourage their realistic assessment of what their career-changes will cost them in status and income.

Some of the publications follow a "case study" format. The best of these are Hoos (1967), Nichols (1967—an article on MDTA training), and the *Business Week* article "Where Job Retraining Works" (1962), an article on the Air Force program to train technicians. Hoos finds some successful and some unsuccessful programs for people in mid-life, the degree of success depending largely on whether there was a shortage of workers in the occupations the students trained for (1967, pp. 205-223). Nichols finds that MDTA training as a butcher helped one (typical?) 34-year-old displaced shoemaker (1967, p. 1). The *Business Week* article indicates (p. 50) that the Air Force program has successfuly retrained 52,000 workers to be technicians servicing inertial guidance systems, but that "costs run high." One pertinent comment from this article states (p. 52) that the administrators of the training program have found:

> . . . that young men are not necessarily the best bets for retraining. A study at Sacramento Air Materiel Area in California pictures the typical retrainee as 39 years old, a high school graduate, with 12 years of experience at several jobs behind him. Some star pupils at Bosch Arma are in their 50's.

Both of the two evaluations of the original New Careers program indicate dissatisfaction with its results. Yabroff and Matland include a section on "Why Programs Fail," in which they cite "professional resistance" and unwillingness to create true career ladders (1970, pp. 11-13). And a *Journal of Housing* article cites a record of "only two successful graduates out of 15" although it insists that this feature "is a somewhat misleading indicator of the potential success of the New Careers program" ("New Careers," 1969, p. 358). Spingarn's study on the Public Service Careers program is only a little more optimistic (1971, p. 41). She notes problems, however, with high dropout rates, professional resistance, bureaucratic limitations on career mobility, and credentialism (p. 43).

The general agreement among the studies reviewed suggests that the external validity of the literature is "good" in the sense of providing the basis for generalization to other, similar processes. The external validity is greatest for the assessment of the topic most commonly studied—institutional training. On-the-job training seems less reliably assessed, especially for those in mid-life. This suggests that at least one avenue for further research be the assessment of the relative merits of institutional and on-the-job training for those in mid-life.

SPECIFIC PROGRAM EXPERIENCE ON SELECTED OUTCOME MEASURES

This section examines programs according to their effects on displacement, wages, and earnings. The following section examines the relation of program outcomes to issues particularly relevant to a mid-life career redirection training program. We note at the outset that none of the empirical studies contains a convincing treatment of externalities. The studies that do not contain benefit/cost or rate-of-return calculations ignore the possibility of displacement, multiplier effects, and increased mobility for the trainee and the labor force. The more rigorous benefit/cost evaluations usually mention externalities but do nothing to adjust for them.

Wages and Earnings

The following four articles contain usable indications of wage changes. They include two of the generally rigorous studies—Main (1968) and Freeman (1972)—and two of the less rigorous—Bumstead (1971) and the Kennedy Center report ("Older Workers," 1967).

Main uses weekly wages. To do so confuses the issue somewhat since weekly wages increase if there is a rise in either the hourly wage or the number of hours worked per week. Still, it is reasonable to expect most of the differences in weekly wages to come from a difference in hourly wages. Main runs a regression of weekly wages on training and various background variables. He gets a small, negative, although not statistically significant, coefficient on the training variable (1966, p. 51) and concludes that "The evidence does not indicate that MDTA training generally resulted in higher paying jobs" (1966, p. 47). Subject to the caveat about possible hours differences, this is an inescapable conclusion.

Freeman, using the Parnes tapes containing amended Social Security data, found positive effects for training, where the effectiveness of different kinds of training programs were evaluated simultaneously by means of multiple regression estimates. Using this interpretation, vocational school and company school training earn small, statistically significant, rates of return, while "other vocational/apprenticeship" training earns positive and negative, but statistically insignificant, rates respectively. Note, however, that Freeman's equation contains no background variables.

Mention of wage changes in the Bumstead article is confined to anecdotal statements. The Kennedy Center report indicates an approximate mean weekly wage on first placement of $65 and a placement rate of 66 percent ("Older Workers," 1967, p. x and Table 4, p. 62). Therefore, mean expected weekly earnings are about $43 = 65(.66). No usable information on costs being available, it is impossible to determine if this apparent return is cost-justified.

Main finds no increase and Freeman's increase is small or nonexistent, depending on the type of training. This is consistent with the Kennedy Center report and the Bumstead article. The two studies that attempt to use control groups appear to show a wage increase, but in the study in which costs are reported, the social rate of return is effectively zero.

Measuring trainee earnings subsequent to training enables the evaluator to judge the benefits of training due to increased hours of work as well as increased wages. If wages are unchanged, but the trainee is now able to obtain full-time employment or is laid off less frequently, then he is better off. If earnings increase while wages decline, the case is ambiguous but is still presumed to be an improvement.

Stromsdorfer brings together earnings data from various MDTA and ARA studies (1972, Table 7, pp. 58-59), reproduced here with a few alterations as Table 17. Lines 1a, 2a, and 2b have been added to the table, and make use of five-year returns estimated by Orley Ashenfelter (1974).

Ashenfelter's data, derived from Social Security records of MDTA trainees, seem to show that the difference in earnings between his control group and MDTA trainees decreases in the five years following training. We extracted his earnings difference data for institutional trainees, put them in 1964 dollars by using implicit price deflators given in the *Economic Report of the President, January 1973* (Table C-3, p. 197), aggregated them across race and sex categories by using the percentages given in Main (1966, pp. 11-12), and calculated the implicit rate of exponential decay. This rate, which turned out to be 12.6 percent, is reflected in lines 1a, 2a, and 2b of Table 17 and in the two previous calculations of rates of return. Returns are projected out for 35 years in all cases where we use Ashenfelter's data. The use of Ashenfelter's data helps by providing a means of obtaining earnings data beyond the first few months of post-training earnings.

The most reliable studies appear to be by Main (1968) and by Hardin and Borus (1971). The Hardin and Borus study is probably the most statistically and theoretically sophisticated. Main's study is helped by the fact that it makes use of a large nationwide sample (about 1200 trainees), and a well-selected control group, but hindered by the fact that it contains no measure of the yearly earnings of trainees after their training. Instead, reported earnings differences are differences in total family income.

Other studies are also informative, but are hampered by their use of before/after comparisons without control groups (Planning Research Corporation, 1967), inappropriate control groups (Stromsdorfer, 1972; Sewell, 1967), or an unjustified production multiplier. Concentrating on the Main and Hardin and Borus studies, it appears that the social rate of return to MDTA/ARA training is positive and reasonably substantial. Rates exceed 10 percent under both of Stromsdorfer's specifications, but fall short of 10 percent when adjusted for Ashenfelter's findings concerning eventual convergence of earnings streams. Since convergence is a reasonable description of the future in any case, it is clear that the studies summarized in Table 17 do not show conclusively that the social return to MDTA/ARA retraining exceeds all relevant social costs for average MDTA trainees.

The private rate shown in line 2b is quite high. The appropriate discount rate with which to compare this figure is not the social discount rate, but either the private borrowing or the private lending rate, depending on which type of financing is contemplated. Still, it is probable that the rate shown in line 2b exceeds all possible criterion rates. The divergence between private and social rates in lines 2a and 2b is not an isolated instance.

Table 17

COMPARATIVE ANALYSIS OF COST AND BENEFIT ESTIMATES OF SELECTED STUDIES OF MDTA INSTITUTIONAL RETRAINING AND ARA RETRAINING

Name of Study	Time Period of Study[a]	Locus of Study	Experimental Group	Control Group	[Average] Cost/Year[b]	[Average] Benefit/Year[c]	Duration of Training in Years[d]	Duration of Benefits in Years[e]	[Average] Rate of Return (%)	Present Value in Dollars 5%	Present Value in Dollars 10%
1. Main	1965-66	Nationwide	MDTA graduates and dropouts	Unemployed relatives or neighbors	1983 1983	409 409	1 1	10 35	15.9 20.2	1110 4490	482 1783
1a. Main (adjusted)					1983	$B_t = 409e^{-0.126t}$	1	35	6.7	199	-288
2. Hardin and Borus	1962-65	Mich.	MDTA enrollees	MDTA applicants	1272 1272	251 251	1	10 35	14.7 19.7	634 2703	246 1044
2a. Ibid. (adjusted)					1272	$B_t = 251e^{-0.126t}$	1	35	5.5	39	-259
2b. Ibid. (private adjusted)					180	$B_t = 174e^{-0.126t}$	1	35	73.4	729	522
3. Muir, et al.	1963-65	Nationwide Judgment Sample	MDTA graduates	Before-after comparison	2444 2444	1338 1338	1 1	10 35	54.0 54.7	7512 18064	5252 9413
4. Stromsdorfer	1959-63	W. Va.	ARA and state program graduates	Workers unemployed during program	632 632	874 874	1 1	10 33	138.0 138.3	5826 13172	4308 7114
5. Borus	1962-63	Conn.	ARA and state program graduates	Unemployed workers who refused retraining	1413 1413	459 459	1 1	10 39	30.2 32.5	2029 6093	1279 2786
6. Page	1958-61	Mass.	MDTA graduates	Workers unemployed during program	1693 1693	874 874	1 1	10 35	50.8 51.6	4815 12017	3343 6124
7. Sewell	1965-67	N.C.	MDTA graduates; disadvantaged rural workers	Nontrainee applicants	2138 2138	296 296	1 1	10 31	6.3 13.5	148 2477	Neg 668

SOURCE: Stromsdorfer, 1972, Table 7, pp. 58-59, except for lines 1a, 2a, and 2b, and all material in brackets, which were added by the present author.

[a] Time period of study includes both the training period and the period available for measuring benefits at the time of data collection.

[b] All costs [except those in line 2b] are total social costs and thus include current operating costs, capital costs, and opportunity costs. [Stromsdorfer mistakenly calls these costs "marginal." They are, in fact, average costs that equal marginal costs only if average costs are independent of the number of individuals enrolled, if the production function for training is homogeneous of degree one. Thus they indicate the cost of an additional trainee *only* if the costs of an additional trainee do not differ from the costs of the average, current trainee.]

[c] All benefits [except those in line 2b] are before-tax earnings and represent a social benefit. [Again, Stromsdorfer mistakenly calls this column marginal benefits/year.]

[d] Most MDTA and ARA training lasted less than one year. The one-year duration assumption, therefore, understates the present value of costs and the rate of return a small amount in the discount process; however, it was used for purposes of simplification.

[e] The 10-year period of benefits is arbitrary. The longer periods are the net estimated working life of the trainees after the end of training.

The data in Table 17 pertain to social benefits and cost for average MDTA trainees but the target population for our pilot project is quite different from the average MDTA trainee. We were able to apply the Hardin and Borus formula to a group with the characteristics of mid-life career changers and concluded that the rates of return would be fairly close to the rates shown in lines 2 and 2a of Table 17, but the rate for females is substantially greater than that for males. The latter result is strengthened by the fact that women have a smaller probability of being employed at the start of the class, since we have implicitly assumed that this probability is unity for both males and females. (A fall of 0.1 in this probability leads to a $25.28 reduction in average social costs.)

Costs

Even though the rates of return calculated for our example from the Hardin and Borus equations come out reasonably high, we are bothered by a conclusion implicit in the equations. It is clear that if either the length of class being considered or the education level of potential trainees is increased very much, calculated rates of return will fall drastically. In fact, Hardin and Borus found large negative rates of return for classes extending over more than 1920 hours (1971, p. 144). This difficulty may be more apparent than real, however, since these rates are based on data from the first year of earnings only.

The literature on schooling has often pointed out that earnings of those with more schooling rise less quickly to their ultimate level than do the earnings of those with less schooling. The difference presumably arises because those with more schooling also get more on-the-job training (Mincer, 1962, p. 59). For education level, the difficulty comes from the fact that increases in schooling length lead to both increases in costs (i.e., higher forgone earnings) and decreases in returns (i.e., delay in attaining ultimate earnings level).

The College for Human Services report (1973) contains the necessary data for the before/after comparison of trainees. Earnings in the 12 months prior to the program are said to have been zero for 70 percent of the enrollees and the median income of the other 30 percent was $1920 (p. i), indicating median earnings before training of $576. Median earned income after completing the 36-week, first-year program is approximately $6500 and the attrition rate is approximately 27 percent (80 percent complete the program and of these 91 percent are hired). Attributing to this 27 percent the median before-training income of $576 (since many were unemployed, this is a conservative assumption) gives a gain in income for the average trainee of $4325. Figuring the cost per trainee as the total budget of the school divided by the number of students completing the course of study gives a cost of $6555, or (6555)(.8) = $5244 per enrollee.[2] We use this as the total cost, therefore assuming that the stipends, averaging about $3200, equal the forgone earnings and any direct costs borne by trainees and that other costs borne by governmental agencies are negligible.

Costs of $5244 and first-year returns of $4325 imply a rate of return of 60.1 percent, by the formula on lines 1a, 2a, and 2b of Table 17. Since this high rate of return comes from a before/after comparison, and since most of the trainees are women, it may be an overestimate when applied generally. Other factors, however, point to its being too low. For instance, the assumption that dropouts earn no more than nonenrollees is quite extreme. However, it appears that training at the College yields substantially more than the required rate of return, although how much more is not clear. Since the mean age of enrollees is 37, this is an encouraging finding. For mid-life career redirection, overall results show a definite rise in the earnings of participants in most programs, which appears to come more from increased hours worked per year than from increased hourly wages.

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[2] We are grateful to Audrey Cohen, President of the College for Human Services, for supplying the basic data here to Lawrence S. Olson in a personal communication, August 4, 1973. The computation assumes that none of the dropouts gain from the training they received.

The general conclusion is that, although it is difficult to tell whether all social costs are returned by existing manpower programs, the prognosis for a program serving a mid-life population is more favorable, especially for those with limited educational backgrounds. In addition, the high rates of return earned by the College for Human Services, and Hardin and Borus's regressions, suggest that the prognosis for a pilot program is more favorable if the majority of its participants are women.

Displacement

Most of the more rigorous studies assume (either explicitly or implicitly) that external employment effects are small relative to the direct change in employment or earnings. (See, e.g., Hardin and Borus, 1971, pp. 7-8, and Hamermesh, 1971, pp. 19-20.) Similarly, most assume that multiplier effects are unimportant (Hardin and Borus, 1971). An exception is Borus's study of retraining in Connecticut (1964) in which he "adjusted annual benefits by a multiplier effect of 2.0 without any corresponding adjustment of the costs." None of the studies makes any allowance for or even any mention of the possibility that training might increase labor market flexibility or decrease risk. Bowlby and Schriver find a "positive relationship between vocational training and occupational mobility among high school graduates" (1970, p. 508). If the mobility increase can be generalized to the type of training of interest in the present study, and if mobility is a true benefit, then the observed positive relationship implies a possible compensating adjustment for the displacement measures specified in the more rigorous studies.

Summary

Defined in terms of the outcome measures used, the questions we are trying to answer are:

- Do current programs that serve a clientele closely approximating our target population earn an acceptable return?
- What evidence on potential justification can be drawn from other programs?

In attempting to answer these questions, we have relied heavily on those studies using the methodology and theory described in the preceding section. Fortunately, the literature affords a fair number of such studies. The findings of less rigorous studies are included, especially where issues not subject to quantification are considered.

Three main points emerge from the rigorous cost/benefit studies:

- An appropriate training program probably would raise earnings of the target group enough to earn an acceptable return.
- In most programs reviewed, the gain in earnings reflects increased employment more than it reflects an increased hourly wage. As will be discussed further in the next section, this is an attractive result for those interested in mid-life career redirection. No definitive statement can be made about whether expected public benefits from an economic standpoint would be likely to exceed full public costs in a mid-life career redirection pilot program.

SPECIFIC PROGRAM EXPERIENCE ON SELECTED PROGRAM DESIGN DIMENSIONS

Our review of government sponsored programs in the manpower field provides guidelines for policy, which we spell out below.

Since formal education, on-the-job training, and experience are good substitutes for each other in acquiring competence in many skills, the question of which to provide and in what combinations must be answered before designing a new redirection program. We must ask:

- Is retraining or direct placement the better way to redirect careers?
- If retraining, should it be provided in an institutional or an on-the-job environment?
- If institutional, should the kind of institutional retraining be general (academic and basic education) or job-specific?
- How long should the retraining program be?
- What role should counseling be given?
- How important are trainee characteristics?

Retraining or Direct Placement

Obviously, the proposed method for assisting in mid-life career redirection should be based on what has been learned from the manpower programs already in existence. The best information about the specific effectiveness of various assistance strategies is contained in the cost/benefit studies of MDTA programs. Neighborhood Youth Corps (NYC), Job Corps, Job Opportunities in the Business Sector (JOBS), and the various welfare training programs provide less guidance since they have not been as thoroughly evaluated. In the case of the welfare training programs, the output measure used to measure success—reduced welfare expenditures—is inappropriate to our purposes.

Placement effort is required of the training institutions operating with MDTA funding, but that makes it difficult to separate the two effects. Smith estimates that for those program participants who elect to remain in the labor force, the normal rate of employment is 79 percent (Smith, 1971, p. 514). For the years 1963 through 1971, an average of 78.2 percent of those completing MDTA were employed after six months (Goldstein, 1972, p. 19). It appears that, if anything, the effect of MDTA training has been negative and the graduates of the program may be attempting to overcome the disadvantages accumulated from being out of the labor force for thirty weeks. At best, since the two figures are so close, it can only be argued that there is no employment effect from training. This point is reinforced by consulting other items in the literature (e.g., Goshay, 1970). Since many of the studies indicate that income increases do occur as a result of training, this result suggests that they must be due to wage increases instead of increased stability of employment.

Since the prospective population for mid-life programs will generally be more interested in new jobs than in increased earnings, the choice of retraining as an alternative to direct placement is not indicated at the most general level. There may be particular instances where it is either the only choice (for example, to meet credentialing requirements) or retraining is seen as necessary to prevent income decreases from being excessive. Whether training can fulfill the "income protection" function is merely speculative, however, since there is no evidence for it in the training literature.

The effects of placement in a training program have been examined and the results are consistent with intuition. A study of the impact of urban WIN programs was conducted by the Pacific Training and Technical Assistance Program (1972). The results are weak but probably reflect accurate estimates of the effect of placement activity on program outcomes such as the rate at which trainees secured jobs, quality of jobs (index), and rate of completion by trainees. The effect of program characteristics (including placement activity) is limited in its ability to explain the variation in the program outcomes in all cases. Placement activity was of some limited positive importance ("weakly significant" is an equation that explains only 15 percent of the variation) in explaining the initial employment rate. In the cases of completion rate and quality of job, the effect of placement activity was weak and negative. It is probable that the effect is nonexistent rather than negative.

Institutional or On-the-Job Training

The choice of retraining methods, institutional or on-the-job, is also informed by these studies. If placement is more effective than retraining, it would be reasonable to expect on-the-job training (whose purpose includes placement) to be superior to institutional training. The percentage of MDTA completors employed six months after being trained in institutional contexts is 74 percent, but it is 86 percent for their on-the-job counterparts. This result emphasizes the attractiveness of the OJT alternative when placement, rather than income increase, is the preferred result. Cost considerations also make OJT appear attractive. However, two studies of programs for older workers raise cautions about the difficulties of implementing OJT programs for older clients (Somers, 1967; Leiter, 1968). Since this is direct evidence based on programs designed to serve a mid-life population, not inferential judgments based on less-appropriate age groups, it deserves special weight in this review.

The four programs studied by Somers are a subset of the thirteen reported on by Leiter. The agreement between the reviewers, and the similarity of the population under consideration to mid-life career redirectors, suggest that the effect of age discrimination by the employers and the deterrent of red tape to the smaller, more responsive employer be carefully taken into account in designing an OJT program. Such care may avoid implementation difficulties that could substantially undermine the program's effectiveness. In general, it is reasonable to expect the initial costs of establishing an OJT program to be higher than those for institutional programs. The effort to place trainees in jobs for training purposes is, in part, a substitution for similar job-search efforts at the end of institutional training. The costs of this placement effort are justified in part by the higher completion and placement rates for OJT as compared with institutional training. Further justification for the higher initial costs is found in the reduced costs of program operation typically found in training programs.

Levitan estimates the average program costs per completor (FY 1967) to be $1145 for the MDTA program: institutional $1900; OJT $380 (Levitan and Mangum, 1969, p. 78). A substantial portion of the institutional costs ($1045) are attributable to support allowances, which leaves training costs of $770 for the institutional program. Direct training costs to the program per institutional completor are twice those of the OJT completor. The dropout rate is 30 percent for institutional enrollees, 17 percent for OJT enrollees (Levitan and Mangum, 1969, p. 29). OJT program costs per enrollee are somewhat closer to institutional program costs per enrollee simply as a consequence of the higher rate of retention.

Because the MDTA/OJT program is available for some people who were already employed in the participating firm, it is likely that the success of OJT is overstated. In these cases the employer is retaining an employee he has already found satisfactory. Underemployed trainees constituted 36 percent of OJT trainees, and many of these were probably already working for the training employer (Levitan and Mangum, 1969). In contrast to programs providing institutional training, OJT participants are resigning a job when they leave the program. This suggests the possibility that higher levels of dissatisfaction with OJT are necessary before the dropout rates will become equal. Dissatisfaction is not the principal reason for noncompletion, however. Levitan quotes a survey conducted for the Labor Department by the National Opinion Research Center, in which only 19 percent of the dropouts said they left their training courses because they were dissatisfied (Levitan and Mangum, 1969, p. 32).

Sewell (1971) found in his study that, for OJT, net average weekly earnings were 29 percent greater than those of controls, while institutional earnings were only 15 percent greater. Because of lower costs, the cost/benefit ratio for OJT (49) was substantially better than for institutional (6.3).[3] Because of the lower costs and higher rates of employment after completion, the higher cost/benefit ratio for OJT is usually found. (See, for example, Nay, et al., 1973, p. 255). Goldstein says, "the evidence examined supports the widely held belief that on-the-job training is superior to institutional training, but this evidence is neither extensive nor conclusive." He cites Sewell as the only reliable study of this issue, which, although it had a control group, studies a small, rural, almost exclusively black sample (Goldstein, 1972, p. 3). Of special interest to this study is Sewell's finding that *only* OJT was effective for women.

General or Specific Training

The issue of vocational education as opposed to basic education has only peripheral interest to this study. The central issue that is addressed only in a limited way here is the choice between vocational or job-specific training and academic or general training. Ribich finds that vocational training has a cost/benefit ratio greater than one while the ratio for general education is less than one (1968, p. 97). Gubins (1970) finds, to the contrary, that the basic education component of the MDTA-institutional program may be the most valuable to the trainee and society. These findings are not incompatible since, as Ribich points out, "General education . . . is normally expected to yield a rich assortment of direct and indirect benefits in addition to that of simply raising incomes" (1968, p. 97). For the mid-life career redirector a good part of this rich menu is, in fact, the objective of change. It seems likely, then, that the inclusion of general education in a career-change program would be appropriate.

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[3] These costs are less because the opportunity costs for society are less. The trainee is not completely removed from the production process. The real difference in costs, however, is incurred by the trainee. Institutional programs do not adequately reimburse the trainee for lost wages and experience. If they did they would be even more expensive than the figures shown here. Since redirectors are volunteers this issue is less relevant here.

Duration of Training

The issue of program length (total hours attended) is a function of trainee characteristics, target career, and the training method used. It is probably most sensitive to the combination of the trainee's chosen career and his prior training, but will vary somewhat depending on whether the training is self-paced and individual, or classroom-oriented. For the usual redirection case, retraining will ordinarily be limited to the lengths, if not the format, of those experienced in the MDTA programs. The literature does suggest limits to the payoff for the long programs that have been encountered in skill training. During the period 1963 through 1967, the most frequent project duration in MDTA/institutional programs remained constant at 27 to 51 weeks, the average being 30. Some increase in the proportion of 52- to 72-week programs among MDTA programs occurred in 1966 (to 8.4 percent) but it subsequently diminished (to 4.4 percent). A steadily decreasing proportion (from 6.4 to 1.4 percent) had been in the "less than four weeks" class (Levitan and Mangum, 1969, p. 79). Hardin, in a study of Michigan institutional retraining programs, finds that "short classes were highly profitable, while medium and long classes with a few exceptions were highly unprofitable" (1969, p. 18). The effect of training declined for classes longer than 963 hours. Borus finds that earnings have a negative relation to course length as well (1967, p. 7). In a study of a different program, Neighborhood Youth Corps—Out of School, he found that length of time was significantly and directly related to subsequent earnings (Borus, et al., 1970, p. 148). Because of the number of variables in the tested equations and the frequent lack of significance in the variables being interpreted, these effects, however real they may be for the sample being tested, do not seem to be of pressing urgency in program design.

Role of Counseling

There have been no attempts in the literature to formally assess the value of counseling in the training process, but it is occasionally recommended as part of the conclusions of a study, as in Somers and Stromsdorfer (1970, p. 314). In the very useful summary of older workers' programs by Leiter, counseling was firmly recommended. The Vocational Rehabilitation Program has had counseling as a fundamental part of its rehabilitation process. While not primarily a skill-training program, it is specifically cited as a highly effective program (Levitan and Mangum, 1969, p.

323). The effectiveness of the Vocational Rehabilitation Program is likely a result of an extremely fluid institutional environment that permits skill training to be custom-designed for the individual, a process that could not be implemented without counseling. It is a particularly informative example of an institution designed to use counseling with the greatest effectiveness because it gives counseling an essential and powerful role. It therefore serves as a means of assessing the effect of counseling under the best circumstances. Conley (1969) estimates that the cost/benefit ratio is approximately 12. In assessing vocational rehabilitation another study said, "Our main conclusion is that the program appears to offer society a handsome return on its investment regardless of the youth's *type or degree* of hearing or vision handicaps." (Kakalik, et al., 1974, p. 226; emphasis added.) The analysis refines and varies Conley's study to test the reliability of the conclusions and come to the conclusion quoted (ibid., pp. 250-262). Unlike the older workers' projects, this program provides skill training to a client population that is rather dissimilar to mid-life career redirectors. It does suggest, however, that the importance and effectiveness of counseling is related to the institutional context of the training program. The custom-fitting of services to the client that this approach permits is an attractive concept. It would lend relevance and specificity to the counseling process that is often otherwise absent. The relatively unimportant and impotent role given counseling may be the principal cause of the ineffectiveness of counseling frequently encountered in other programs (schools, public welfare agencies, and the employment service are common examples). The practice in the Department of Vocational Rehabilitation of obtaining the training services on an as-needed basis is appropriate also, especially for an experimental program, and it removes the requirement that the training program be sufficiently large to provide the intended services efficiently. For an institution providing a counseling, referral, and placement process, but which hires the specialized training services, the demand for counseling and referral services determines its size.

The strongest case for counseling in the training literature occurs in a study of the relation of components of achievement motivation to a job trainee's capacity to obtain and maintain employment (Veroff, et al., 1971). A strong interaction was found between labor market conditions and the trainee's motivations and expectations. Some ordinarily effective expectations may be harmful when job possibilities are reduced. "A person with high expectations may delay looking for a job, expecting 'good times' to return. He may become dissatisfied with a current job, if it isn't as good as the one he had or expected to get before entering the training program. Thus, in 'bad times,' lowering job expectations to a realistic level may be an important goal of counseling phases of a training program" (Veroff, et al., 1971, p. 114). For mid-life career-changers who are in the process of change for reasons other than labor market conditions, it is very likely that their expectations will be unrealistic. Realism would serve two purposes in this context. A more successful job-search process would result and, perhaps more important, the likelihood of substantial psychological damage would be reduced since, as with plastic surgery, there is some danger of expecting the change to resolve all the problems faced by the changer.

Effect of Trainee Characteristics

The relation of demographic characteristics—sex, education, age, and race—on success in training (variously defined as program completion, placement, income increases, and employment stability) require investigation since the differences, if unambiguous, would suggest different programs designed for different groups. The number of possible training program variations is substantial since the alternate strategies may need to be responsive not only to the demographic variables, but also to the target career for redirection. The target career can vary on many dimensions, but the two most important ones are the type of career selected and the degree of redirection. The degree of change for the career-changer is in itself a multi-dimensional concept embracing considerations such as upgrading/downgrading, career sought/career abandoned, fast transition/slow transition, and degree of prior preparation for change. These considerations are further modified by labor market conditions. Furthermore, since the outcomes for the various programs are examined singly in the literature, the effect of systematic employer discrimination against females, nonwhites, the young and old, and the uneducated is difficult to separate from differences in the ability of training approaches to help these populations.

The most reliable study of the relation of trainee success to demographic characteristics for on-the-job training is a study of a program that also included tutoring, counseling, and supportive services (Lipsky, et al., 1971). Older, married, white, less-educated workers were more likely to be successful than their opposites. Trainees moving from blue-collar nonmanufacturing jobs to white-collar manufacturing jobs were the most likely to be successful (Lipsky, et al., 1971, p. 48). Sewell (1971) found significant differences between the experiences of men and women in OJT and institutional training programs. Women did much better in OJT. Even though this study uses control groups, its findings are not generalizable since the sample was rural and predominantly black, and the institutional training for women with one exception was nurses' aide training. Sewell also found that the benefits of OJT, whether measured in weekly earnings or hours worked, were greater than those of institutional training for trainees aged 44 years or more and for those trainees with less than a ninth-grade education (Sewell, 1971, p. 76).

In institutional programs, Trumble (1971, p. 89) finds "non-blacks tended to do better than blacks, and males had more successful immediate outcomes than females." These results are consistent with a larger study conducted in 1963, which was verified in a follow-up study in 1966. The effects on sex and race were both stronger and more significant in 1966 (Somers and McKechnie, 1967, p. 33). Similar findings by Stromsdorfer confirm that institutional training is less effective for women (1968, p. 151). While the latter study does not estimate the effects of race, it does examine the effects of age in sufficient detail to reveal its more complex relation to benefits from training. The effect is negative for those trainees under 21 years and over 45 (Stromsdorfer, 1968, p. 151). The relation between education level and training benefits has been found in a number of studies of MDTA and NYC/Out of School to be highest for those with less than a high school education.

It appears, then, that training had the most effect for white males between the ages of 25 and 35 with limited education. This has been especially true for institutional training. It is likely, however, that labor market discrimination in hiring is influential here as well, and that completion of a training program does not eradicate the differences between prime-age white males and groups such as women, blacks, and older workers that have experienced labor market discrimination in the past.

CONCLUSIONS

It is apparent that direct placement without training should be the first strategy attempted in career redirection. The MDTA Older Worker Experimental and Demonstration projects suggest that the implementation and operation of programs that rely exclusively on OJT will be time-consuming and difficult to implement for those over 45. Direct placement using staffs of nonprofessionals, perhaps even volunteers, may be possible and should be investigated. Education and training are clearly not always necessary. For OJT to be successful, care will have to be taken that employer discrimination and administrative red tape do not render the program ineffective. Since these studies suggest that there has to be some payoff to the employer, consideration should be given to subsidizing the OJT when it imposes a substantial cost on him. Since this strategy will significantly increase the cost of the on-the-job training, it is likely to be less attractive under these circumstances. On-the-job training is apparently most likely to be effective when it occurs as the result of opportunity due to employer need.

A surprisingly (since it is rarely tested) strong case for counseling emerges from the literature, but this case must be considered tentative, since the literature on counseling was not systematically reviewed. The Older Workers' Education and Demonstration projects relied upon it heavily, and judged it to be essential. The apparent success of Vocational Rehabilitation also argues for its inclusion since the decisions as to whether, how, when, and for what purpose training is to be used are determined in the counseling process.

The Vocational Rehabilitation Program, while not extensively analyzed in cost/benefit terms, provides an attractive organizational model as well. The apparent gain in effectiveness from the lack of restriction on organizational form and client relations (other than eligibility) has been remarked on by such knowledgeable observers as Sar Levitan and Garth Mangum. This is in striking contrast to the criticisms of present manpower organizations at the federal and state levels. Additional attractiveness is given to the individualized purchase of services approach by the consideration that substantial flexibility in the demonstration stage is gained by subcontracting or renting (possibly though not certainly at greater expense) the educational services required. Added relevance and considerable specificity would be given to the counseling process with good effect.

AREAS OF FURTHER RESEARCH

There is a striking contrast between the large number of empirical investigations of the productivity in the training process of such easily measured inputs as classroom hours, and the small number that investigate the influence of counseling on the same process. It is clear that this is principally due to the difficulty of measuring the counseling function as an input. Tests of the sensitivity of training outcomes to the presence or absence of counseling are possible and should be conducted. A further refinement of this sensitivity analysis would be to examine the effect of the assignment of different institutional roles to counseling. For example, the outcomes of those programs using counseling to deal only with personal problems of trainees could be compared with the outcomes of those programs assigning counseling a principal role in the institutional structure. This approach would entail examination of a very large number of programs to control for the numerous other variables affecting the program outcomes, but is not an impossible or infeasible task.

To clarify the comparisons now being made between on-the-job training and institutional training, research should be conducted to determine to what extent the extra placement effort necessary to implement on-the-job training contributes to its greater cost-effectiveness when compared with institutional training. In particular, the questions that need to be answered are:

- Does the efficiency of on-the-job training follow from economies resulting from matching the man to the job prior to training (thereby reducing the number of likely noncompleters trained), or
- Does going through the placement process prior to training lead to a subtle accommodation to the market place—permitting creaming of the most individual sort, that of preselecting the trainee from those already acceptable for the job rather than from those who would otherwise not be hired?

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Chapter 6

EMPLOYER-SPONSORED PROGRAMS

by William Dunn

INTRODUCTION

Training in the private sector, when offered at all, is conducted in a variety of settings. Companies sponsor training programs when circumstances require them to do so. In a survey of 2500 firms, 32 percent indicated that they provide training in some form. Much of the training is the minimum necessary to enable the employee to function in his job productively. Consequently, most of it is on-the-job training during working hours, with only 16 percent conducted as classes. Apprenticeship was practiced in 25 percent of the firms surveyed (Schaefer and Kaufman, 1971, p. 71).

Even this narrow training is provided reluctantly; the usual practice is to search the labor market for applicants who are already qualified. Three considerations lead the employer to this practice. First, because the amount and kind of training required are limited and unpredictable, the employer usually does not find it worthwhile to establish a training capacity. Second, because the employer generally has very little knowledge of the condition of the labor supply, he is reluctant to set up training programs if there is a chance that trained applicants are available if only they can somehow be found. Finally, the employer is reluctant to train unless forced to, since training tends to improve the employee's general attractiveness in the labor market, and thus to increase the probability that he may leave for a better job. Capital investment in human beings is irretrievable. Once it is provided, the employee has sole control over its use. Of particular concern to the employer is the fact that those times when the employer is most likely to consider training—periods of tight labor markets—are just the times when turnover is of greatest concern (Gordon and Thal-Larsen, 1969).

Cost-benefit analysis of company training is seldom practiced, since it is generally held that the returns cannot be measured accurately enough to justify the effort. But the economic answer on which government policy should turn is a comparison of costs and benefits (Lauwerys and Scanlon, 1968, p. 66). The same authors believe that "... vocational training in separate vocational schools is far more costly than ... in-service training provided by employers. Furthermore, in more cases than not, in-service training is more effective than school based training." (Ibid., p. 66.) From the latter view, they argue that there should be maximum reliance on employers. They see little likelihood that cost-benefit analysis will be applied to employer-based training programs, partly because of the practice of employers to use their educational and training opportunities as recruitment devices. (Ibid., p. 204.)

In an investigation of the availability of data on company training programs, Somers (1969) found that only a relatively small number of firms kept records concerning training and trainees, and even those records contained only gross estimates for the company as a whole rather than specific information about each training program.

Despite the underdeveloped state of analysis of employer-sponsored programs, we were able to find several that provided useful insights. These were evaluated with respect to their internal and external validity. Internal validity was assessed by means of a checklist designed to apply a standard set of questions to the piece to assure that it had sufficient merit to be included in the review. The checklist instrument was designed to include unusual or nonquantitative considerations in assessing a publication. Allowance was also made for the reputation of the author or article reviewed, but that condition was never allowed to suffice without at least the second of the two conditions above being met also. The checklists are not included in this report since the generalizations from the individual studies are the subject of interest and because of the difficulties in communicating degrees of judgment and qualification in a binary format. Since the purpose of the checklist was to abstract and simplify for the purposes of aggregation and comparison, they are not fair summaries of the individual articles reviewed, even though they served the purpose of summarizing the literature very well.

CURRENT PRIVATE SECTOR PRACTICES: THE SMALL EMPLOYER

Larger establishments are considerably more likely to provide training programs than smaller ones, and to provide more varied types of training. Of the forms of training possible—apprentice training, tuition refund, fellowship plans, special programs at colleges and universities, technical and management training, and institutes located within the firm—those that occur in-service predominate. (The government also finances training that takes place in business firms, such as the MDTA/OJT programs. See Chapter 5 for more detail.) With the further exception of apprentice training, each of these types of training is more prevalent in the larger firms. (Gordon and Thal-Larsen, 1969). Some, such as the fellowship plans and institutes, are provided only by the largest firms. Gordon and Thal-Larsen also found that the publicly sponsored OJT programs had very little effect, though they specifically cited the Job Opportunities in the Business Sector (JOBS) program expansion as a possible change in this situation. (The JOBS Program was just beginning in 1969.) About 80 percent of the employers contacted in this study offered formal training. Since vestibule training is necessary to adapt even experienced workers to the employer's firm and is thus impossible for the employer to avoid, this figure may be misleadingly high. The same study also found that one-third of the smallest employers offer no formal training (Gordon and Thal-Larsen, 1969, pp. 466-467). The usual reason given for this state of affairs by smaller employers is lack of funds, lack of space and equipment, lack of personnel and the fear that the trainee will be lost because of mobility (Somers, 1969, p. 22).

Serbein, in his landmark survey of 1957 (published 1961) of training in business organizations, found that the most frequent form of training was that provided to new employees. The next most frequent form was that given to employees reassigned to new operations. While two-thirds of the firms with 1000 to 9999 employees provided new-employees training, the figure is 39 percent for firms with 500 to 999 employees, 22 percent for firms with 100 to 499, and zero for firms with 99 or less employees. (Of the firms with less than 99 employees, 12 percent indicated that no training was provided, and the other 88 percent failed to respond to the interview. (Serbein, 1961, p. 69.)

CURRENT PRIVATE SECTOR PRACTICES: THE LARGE EMPLOYER

In response to Serbein's survey in 1957, 35 of the 89 firms designated as large indicated that they assigned less than three full-time employees to corporate training staffs on a companywide level. The largest number reported was 23, but in many cases, the number reported was representative of substantial additional numbers at the division level.

Information on some individual large companies may be interesting. The scale of effort can be monumental, as in the case of General Motors. In addition to heavy participation in the usual company training programs—apprentice training (5500 employees in 1971), tuition refund (5000 employees in 1971), and technical and management training (30,000 employees per year)—General Motors has a fellowship plan and an engineering school. The fellowship plan permits an employee to pursue an advanced degree on educational leave of absence. The employee receives a fixed stipend, tuition, and fees and the university he or she attends receives a special research grant. Special programs lasting from one week to a year at colleges and universities are also provided.

A more unusual program is the General Motors Institute, whose principal function, although it provides technical and management training, is to train academically qualified high school graduates as engineers. The program embodies a five-year work-study plan. Alternate six-week periods are spent at work and school for four years. The fifth year is devoted to full-time work and the completion of a thesis (Lauwerys and Scanlon, 1968, p. 338). This is an unusual practice in industry. Nonprofit firms such as The Rand Corporation and Arthur D. Little operate graduate programs in their areas of expertise, but the principal purpose is not to train employees, but to make a contribution to particular disciplines.

On a similar scale, IBM offers seven major training programs for its employees in sales and customer training, customer engineering, engineering, voluntary and extension education, management development, manufacturing training, and executive training. These programs are more typical of industry in that they are provided to meet the needs of the employer. Educational leaves of absence, without stipends or reimbursement of costs, are permitted. Of more interest for the purposes of mid-life career redirection are IBM's cooperative education programs (academic terms alternating with employment) for selected students of several colleges and universities. IBM also conducts a summer employment program for students (principally graduate students) and faculty on specific research projects (Serbein, 1961). This approach is not uncommon in firms whose employees are principally professionals in fields requiring advanced training. The programs are operated with little prospect of direct gain other than as recruitment devices for the firm. They would require little adaptation to be useful to the highly trained career redirector (Ginsburg, 1971, pp. 28-29).

The judgment of these large employers seems vindicated by a study by Donald Parson, who finds that quit rates by industry are lower for industries where worker-

and firm-financed specific investments in training are heavy (1972, p. 1140). In the study of an oil refinery, an aircraft company, an airline, and a telephone company, Weinberg found that age was less important than individual capacity and aptitudes in appraising a worker's adaptability to training. (See also Chapter 3.) The effect of counseling was felt to be important for the older worker, who may otherwise resist training because of its novelty and unfamiliarity. (Weinberg, 1963, pp. 936-937.)

The experiences of Armour and Company and Haloid Xerox Company are interesting. In each case, the installation of automation processes left the company faced with the prospect of a large layoff of employees. In the face of union pressure, each attempted to retrain its workers. Haloid Xerox was the more successful, and achieved its success through the retraining of employees for positions within the firm. It conducted its own training (Williams, 1960). Armour set a flat maximum of $150 assistance per displaced worker and attempted to use existing training facilities outside the firm (Hoos, 1967, pp. 80-82; Stern, 1969). While Armour admittedly had the more difficult task, the evidence from this study seems to indicate that the firm is the best training resource for employment within it, and that the coordination and placement efforts attempted by Armour are best done by an institution specializing in the coordination of retraining, counseling, and referral.

Executive training (especially for large corporations) is a significant departure from the practice of relying on market search and academic institutions. The value of a properly trained top executive is high enough to justify duplication of the training provided by academic institutions. Retraining is also recommended as a method of revitalizing "shelf-sitters" who have reached a dead end in the promotional structure (Cone and McKinney, 1970, pp. 81-96). Job rotation is recommended for the same purpose and is described as the best OJT for top management (Lord, 1972, pp. 59-62).

The episodic, circumstantial nature of the typical firm's approach to training suggests that one method of assisting with mid-life career redirection is to maintain an inventory of interested career changers whose characteristics are available to interested employers. A firm finding it difficult to fill a vacancy with a trained experienced applicant might be persuaded that its second-best choice would be a highly motivated applicant with a known work history who could bring fresh perspective to the position. Comparisons with the usual training practice for executives might be persuasive, since the arguments for the value of a fresh perspective on a job and the revitalization of those dissatisfied with their present career track apply equally well to mid-life career redirection.

CONCLUSIONS

Because the training of employees is internally directed, i.e., aimed at improving the morale and skills of the firm's own employees or at placating union demands, and conducted for production purposes, it is unlikely that a program to assist in mid-life career redirection can rely on existing employer-based training programs. Occasionally, a career redirector might be able to use his employer's training program as a springboard to his preferred occupation. It is even likely that this practice is occurring now—to the extent that it can. Since it is highly probable that the career changer will also be an employer changer—particularly if he has to resort to a special program because he has been unable to make the jump using resources currently available to him—his employer is unlikely to be eager to help him except in the rare case when there is an obvious opening in the company with few or no applicants. For that exception, the person concerned is unlikely to need assistance. It is difficult, however, to conceive of a public program that would top private sector training facilities.

For those changes that require the employee to obtain a new employer, a more reasonable case can be made. Assistance of the mid-life career redirector might involve referral to a firm with the willingness and ability to train him or her. That referral, in combination with the provision of some preliminary training that the previous employer was unwilling to provide, seems an even more effective approach. The combination of these essentially referral functions with a counseling process, which helps the redirector decide on a target career, would be a logical extension of this assistance. Counseling might reduce the number of iterations a redirector would make through the assistance process and maintain the credibility of the redirection program to target employers. (It is worthwhile to pause and consider how the abandoned employer as well will view the institution, since he may be the access instrument for the dissemination of the program, and in some cases may also be a target employer.)

The credibility of the redirection-assistance institution in the employer community will be particularly important if the assistance process includes acting as an intermediary for the employee. The difficulties that various state employment services have encountered as they deemphasized the needs of the employer in the process of counseling and referring the prospective employee should also be noted, since that experience suggests that the employers must play some part in the referral process or they will stop advising the referring institution of openings.

The referral and counseling process suggested by the literature on employer-sponsored programs seems consistent with the emphasis of the previous chapter on government-sponsored training programs. There the evidence also seemed to indicate direct placement as a first-course strategy. The secondary strategy of a counseling process, which contracts on an individual basis for the institutional training found necessary, is also consistent with the finding in this literature that the employer is reluctant to provide such training since the market-search alternative makes in-house training more expensive than it is worth. This secondary strategy is probably the only method by which less-educated mid-life career redirectors (for whom institutional training seems most effective) can be included in the redirection process.

AREAS OF FURTHER RESEARCH

One of the principal issues that must be addressed prior to the implementation of a large-scale program to assist in mid-life career redirection is the extent to which employers are willing to accept seasoned but inappropriately experienced applicants to fill jobs for which applicants are scarce. It is highly doubtful that a simple survey of firms would be useful for the purpose, it being too easy for good intentions to be counted as firm intentions. Rather, there should be a systematic attempt to document cases where career redirectors have secured positions judged unlikely to be filled otherwise. Information of that kind would be useful also in identifying the most feasible kinds of career redirections, and would therefore be valuable in counseling redirectors as well.

A search of this sort would also shed some light on the opportunities available for career redirectors within the institutions where they are now employed. Information of that sort is usually not widely known in the case of private employers since, unlike public employers, they are not bound to publicize openings or even formally announce them. Career redirection for minorities covered by Affirmative Action may be particularly attractive to the employer. The principal attraction of the knowledge of redirection opportunities within the firm is the ease with which a program for facilitating career redirections for those in mid-life could be conducted. If it were established that opportunities for redirection were common and usually successful within the firm, much of the publicly funded effort could be devoted to communicating the existence of the opportunities to the employers and employees most likely to benefit from the knowledge. Thus a description of the redirection that has occurred within the firm would provide information about the opportunities within and between firms that would be very useful in the design and implementation of a mid-life career redirection program.

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Chapter 7

UNION-SPONSORED RETRAINING PROGRAMS

by Velma M. Thompson

The effects of automation became a familiar issue in union-management negotiations during the late 1950s and gave rise to a wide variety of ameliorative measures during the 1960s. During that time the number of provisions for retraining programs in collective bargaining agreements grew to its current level: about one-fifth of all such agreements that cover one thousand or more employees (Department of Labor, 1969, p. 2).

The literature on union-sponsored retraining programs attempts to explain the rationale for the union's sponsorship and evaluates the effectiveness of the various retraining programs. The literature also uniformly indicates two interesting properties of the retraining provisions without attempting to explain them. The provisions lead the union to respond to technological change by (a) giving retraining priorities to the affected workers according to their seniority in the bargaining unit; and (b) subsidizing the retraining of union members who are affected but not displaced by the technological change, while offering technologically displaced union members, if anything, a *choice* of money payments or retraining in nonsubstitutable occupations.

The first part of this literature review argues that the literature does not adequately explain the phenomenon of union-sponsored retraining, and that a simple theory can be constructed that explains both the phenomenon and the commonly accepted observations described above. The second part of this chapter reviews the literature for its evaluations of the effectiveness of the various kinds of union-sponsored retraining programs. The conclusion discusses the applicability of these findings to mid-life career redirection.[1]

AN EXPLANATION OF UNION-SPONSORED RETRAINING

Definitions

Let us define a union as a group of workers which gains exclusive rights to bargain over wages with a firm or industry and to withhold labor. Unions thus have the potential to raise wages above the open market level. And let us define a union-sponsored training or retraining program broadly, so that the definition includes employer-funded training programs provided by collective bargaining agreements, as well as union-funded programs. Union-sponsored retraining programs are not limited to union-operated retraining programs; they also include, for example, programs to retrain union members in vocational classes in secondary schools or junior colleges. Such a broad definition recognizes that unions that win employer-funded retraining programs in collective bargaining agreements in general have forgone some other expected benefit to union members. This definition is conventional in the literature.

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[1] A Mid-life Career Redirection Literature Review Checklist was prepared for each item which treats union-sponsored retraining programs. Checklists are available upon request.

The Literature's View of Union-Sponsored Programs as a Monopoly Device

The literature on union-sponsored retraining programs can be divided into three categories. The first comprises a few relatively theoretical papers that focus primarily on apprenticeship programs (Barbash, 1968; Strauss, 1968). The second includes a group of papers that describe the kinds of provisions for training that have been negotiated by unions (Levine, 1964; Clague et al., 1971; Department of Labor, 1969). The third comprises case studies of union-sponsored retraining programs (Bennett, 1963; Conant, 1965; Gannon, 1966; Hoos, 1965, 1967; Janssen, 1961; Perlman, 1966; Shultz, 1964; Shultz and Weber, 1966; Spritzer, 1971; Ullman, 1969; and several anonymously authored pieces).

All the articles that attempt to explain the phenomenon of union-sponsored retraining programs treat such programs as a technique by which union leaders try to maintain jurisdiction over the supply of workers in their trades or at their worksites.[2] That view, of course, does not explain the union sponsorship of retraining of technologically displaced workers for jobs outside the union's jurisdiction, a sponsorship which the literature does not attempt to explain. To support its view, the literature cites the frequent reports of union leaders' hostility to retraining in vocational schools (Foster, 1970, p. 24), and in federally administered programs (Barbash, 1968, p. 78; Gannon, 1966, p. 1; Strauss, 1968, p. 228). But their hostility is directed only at programs that train non-union workers for union jobs, not at retraining programs they sponsor for their own members. The literature notes that unions have responded favorably to federal programs to retrain union workers (Barbash, 1968, p. 70; Gannon, 1966, p. 1; Perlman, 1966, p. 1). Furthermore, the literature fails to note that if a union wants to hold on to a given set of workers so as to maintain the strength of the union over its competition, it can resort to more direct and effective means than retraining. For it would be cheaper for the union if it simply raised negotiated wages or lowered dues and let its members provide their own retraining instead of forcing them to accept retraining as a union benefit.

The next section provides a theory of union-sponsored retraining that is not subject to the above objections and explains those commonly accepted observations mentioned at the beginning of this chapter.

A Theory of Union-Sponsored Training and Retraining

It is plausible to contend that on-the-job training (OJT) is the most efficient way to learn some techniques of an occupation (Strauss, 1968, p. 230; Foster, 1970, p. 25; see also Chapter 5 above). If there were no union to restrict original training, workers who wanted to enter an occupation could go to an employer and ask for on-the-job training. The employer would thereupon hire until he was indifferent between hiring an additional apprentice and not doing so. But the hiring of additional apprentices makes the group of original workers in the occupation worse off, because increases in the number of workers ultimately lower the wage in that occupation. Consequently, when a union bargains with individual firms, it bargains for restrictions on or control over apprenticeship training.

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[2] E.g., "In addition to exercising their traditional union influence over wages and working conditions, these unions also have introduced, through training *and retraining* provisions, a measure of control over the allocation of the supply of workers." (U.S. Department of Labor, 1969, p. 2, emphasis added.)

When we consider retraining, the above monopoly argument does not apply—whatever the kind of union. Retraining does not involve a situation in which workers are being restricted from entering the union. The issue is whether a group of *current* union members should be retrained. We consider, first, retraining induced by technological changes that call for the upgrading (rather than the displacement) of workers in the occupations covered by a union, and, second, retraining of union workers displaced by technological changes that call for the movement of union workers into new jobs outside of the union's jurisdiction.

For the first kind of technological change, we have already observed several reasons for discounting the widespread argument that union retraining for jobs within the union is adopted for monopoly reasons. Why, then, does the union ever sponsor the retraining of workers for jobs in the same union?

If there were no union and a worker secured retraining at a private vocational school at his own expense, he would demonstrate to his employer that he had raised his marginal product to the firm and could obtain a corresponding wage increase. But when there is a union, the situation is different. The wage of a union worker with seniority is not sensitive to variations in his individual marginal product, and he knows he can find work at the bargained union wage because the firm must offer him work before it may use the less-senior workers. A senior union worker therefore has little economic incentive to maintain or increase his productivity, for he will receive work offers at the union's bargained wage largely independently of his own retraining efforts. But it will pay the union *as a group*, through its ability to bargain for a higher wage for all workers, to induce each worker with seniority rights to raise his productivity whenever the value of the bargainable wage increase to the union—the value of the increased productivity of the senior workers—exceeds the cost of the training program. The literature's widespread observation that workers are offered retraining programs according to their seniority (Department of Labor, 1969, p. 18; Levine, 1964, p. 384) is predicted by this theory. For the more seniority a worker has, the less incentive he has for self-improvement.

In the second case, in which technological change displaces part of a union's labor force, the retraining of a group of workers for occupations that are relatively noncompetitive (or complementary) with their previous ones raises the wages of the workers who remain in the occupation. This wage increase is a monopoly effect; it gives the union some incentive to over-retrain its displaced workers for jobs that are relatively noncompetitive with the union's jobs. The economic return to monopolization by encouraging exit into another occupation is much less than what can be gained by restricting entry via special apprenticeship programs, because the union must compensate members to induce them to exit into other occupations. With the net monopoly return to retraining some of the workers for other occupations so limited, it is not surprising that the literature notes only a few cases in which workers are retrained for occupations that fall outside the coverage of the sponsoring union—the most notable case being the retraining program sponsored by the

Armour Automation Fund Committee.[3] And all of those cases arose from technological change that displaced most of the workers in the industry, whereupon it was obviously efficient for some of the workers to retrain for new occupations. The unions were obviously not merely inducing exit to raise their wages. And in all the studies that provided the most complete descriptions of the retraining efforts, the displaced workers were offered a choice between retraining and substantial lump-sum monetary compensation, indicating that the unions were at least partially supplying insurance against technological displacement to their constituents rather than merely attempting to entice them into relatively noncompetitive occupations. While the choice presented by the union may offer the displaced workers a somewhat artificially low price of the union retraining program and therefore somewhat of an implicit union subsidy to retraining toward a set of relatively noncompetitive occupations, the literature never considers any such monopoly effect. On the contrary, it consistently lauds the idea of union sponsorship of retraining into other occupations. While the purity of union motives is nonetheless open to question, the fact that the unions paid compensation to displaced workers to induce them to leave their occupations does place a substantial limitation on the magnitude of the monopoly effect.

In summary, the foregoing theory of union-sponsored retraining implies that senior union workers will be induced by the union to undertake retraining when the increased productivity (and hence the value of the entire union's bargainable wage increase) justifies the cost, while union workers who are displaced by technological change will be offered a choice between cash payments and retraining for nonsubstitute occupations. That observation is an empirical fact as well as an implication of our theory—a fact that is abundantly clear in the literature but not explainable by any of the implicit theories therein.

Finally, it is possible that union-sponsored retraining programs are not created in response to technological change at all, but rather in response to some other factor, such as a deterioration in worker productivity (as caused, for example, by the relatively infrequent use of skills such as mathematics, reading a foreign language, or shorthand) that produces similar effects on worker productivities to those of technological change. This latter factor has the same institutional implications for union-sponsored retraining as those described above as created in response to technological change. We have stressed technological change as a causal factor here, however, because the provisions for retraining programs in collective bargaining agreements are concentrated in six industries that have experienced continual technological development: transportation equipment, communications, nonelectrical machinery, primary metals, utilities, and food.

THE EFFECTIVENESS OF UNION-SPONSORED RETRAINING PROGRAMS

We now review the case studies of union-sponsored retraining programs for their evaluations of the effectiveness of the various kinds of programs. The case studies can be divided into two categories. In the first are studies that mainly describe various programs and do not rigorously assess their effectiveness (Adjustment to Plant Closure, 1967; Are Displaced Workers a Flop? 1962; Bennett, 1963; Gannon, 1966; Hard Realities of Retraining, 1961; Hoos, 1965, 1967; Janssen, 1961; Perlman, 1966; Printers Prepare for Change, 1963). Studies in the second category both describe and attempt to assess the effectiveness of one or a series of programs (Conant, 1965; Progress Report of Armour's Tripartite Automation Committee, 1961; Shultz, 1964; Shultz and Weber, 1966; Spritzer, 1971; Ullman, 1969). The latter group deals mainly with union-sponsored programs for displaced or about-to-be-displaced workers, and most of the items treat the retraining efforts sponsored by the Armour Automation Fund Committee.[4] This provides a somewhat favorable methodological circumstance, for the Armour retraining programs attempted somewhat similar training efforts in about a dozen localities over a period of a decade.

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[3] The Armour Automation Fund was administered by representatives from unions, management, and the public, and was financed by a $500,000 grant from Armour and Co. A comprehensive report of the Committee's retraining efforts is provided by Shultz and Weber (1966). For a description of the few other such programs, see Levine (1964, pp. 379, 384).

Those items that assess programs for displaced or about-to-be-displaced workers measure program efficiency primarily by the rate of placement of trainees immediately after or within a few months of completion. The authors of these items generally agree that union-sponsored retraining programs are somewhat effective, but their methods of assessment render their conclusions somewhat convincing. In general, their methods are characterized by insufficient cost measures and bias in the selection of control groups, while most of the programs under assessment are characterized by some applicant creaming and applicant self-selection.

We now describe the literature's findings concerning the *relative* effectiveness of various union-sponsored programs for technologically displaced or about-to-be-displaced union members, which is much more easily discernible than their absolute effectiveness. We adopt without argument the relative effectiveness measures found in the literature, and describe findings regarding both the *general* program features and *particular* procedural aspects deemed effective in aiding displaced union members of all ages. We then describe what the literature says about the specific issue of the retraining of older union members—those workers who might be eligible for mid-life vocational redirection.

The authors who evaluate various union-sponsored retraining programs are in agreement about a number of *general* features that make for effective programs. First, a major general objective was the cultivation of a "sense of mobility" among the displaced workers (Shultz and Weber, 1966, pp. 200-201). A formidable obstacle to the worker's effective readjustment to displacement and reemployment proved to be his lack of awareness of his best alternative opportunities and how to capitalize on them. In most cases the displaced worker had been out of the labor market for so long a period of time that he had to be re-equipped for effective participation in the labor market. Hence, effective programs resorted to a wide variety of tools: intensive counseling in the techniques of job-seeking, information on a broad range of employment opportunities, a knowledge of prevailing wage levels, and occupational retraining. This feature was mentioned as having proved effective in all the retraining programs sponsored by the Armour Automation Fund Committee.

Next, the usefulness of the federal-state employment service was greatly enhanced where its activities were organized and implemented on a special project basis—for example, where federal-state personnel with special skills and knowledge relative to displaced workers were gathered in a particular local office to deal systematically with the employment problems of a particular group of displaced workers (Shultz and Weber, 1966, pp. 195-196). The literature agrees that the use of routine procedures by the federal-state employment service to handle mass layoff problems generally did not produce satisfactory results.

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[4] The major exception (Spritzer, 1971) focuses on retraining programs designed to upgrade the skills of merchant seamen. The results of this study were inconclusive with respect to the relative effectiveness of the features of these programs in accomplishing this goal, for the factors found to influence program success were interrelated and hence influenced each other in varying degrees (Spritzer, 1971, p. 310).

Finally, the literature indicates that union operation and control of the training facilities is less important to the effectiveness of union-sponsored retraining programs than is the quality of the training facilities and of the instruction for imparting the techniques of alternative occupations (Shultz and Weber, 1966, p. 197).

The authors who evaluate the various union-sponsored retraining programs also agree on the worth of *particular* procedural aspects to enhance effectiveness. First, crash programs for retraining workers after they lost their jobs were determined to be of negligible help in enabling their reemployment (Hard Realities of Retraining, 1961, p. 242; Are Displaced Worker Plans a Flop? 1962, p. 75). When the notice of an impending layoff was short or nonexistent, there was little opportunity for all involved to formulate remedial plans. The shortcomings of crash programs were particularly evident when the educational level of the displaced workers was low—a feature more common among senior than among younger union members—so that effective retraining for many types of jobs was difficult to achieve.

Second, broad selection procedures for program participation were the more helpful to the affected workers, where a broad evaluation of the characteristics of program applicants included an assessment of such factors as education, test scores, prior experience, attitudes, and motivation. Retraining programs with rigid selection procedures effectively excluded those displaced workers most likely to be unemployed without a retraining program, a procedure tantamount to "creaming" the applicant population. For example, on the basis of a battery of impersonal aptitude tests, one early Armour retraining program declared 65 percent of its displaced worker population ineligible for retraining (Hard Realities of Retraining, 1961, p. 242). Subsequent Armour programs incorporated broader selection procedures that substantially reduced that percentage (Shultz and Weber, 1966, p. 131).

Third, appropriate instructional innovations were determined to be helpful to the affected workers. For example, senior union members were found to be particularly resistant to classroom retraining (Hoos, 1965, p. 417; see also Chapter 3). One union determined that the best type of instruction for its members was "autoinstruction in conjunction with a live teacher which promotes a higher degree of student satisfaction" than could be gained from traditional lectures or autoinstruction alone (Hoos, 1967, p. 125). The Armour Automation Committee found that the use of the "continuous cycle" approach to retraining appeared to positively influence its trainees' performance (Shultz and Weber, 1966, p. 152). In such an approach, a particular course did not have a fixed calendar schedule, but consisted of a specified number of units of study or practice, each with a range of hours allowed for completion. At any given time, different trainees were engaged in mastering different units. The "continuous cycle" approach afforded considerable flexibility for trainees and administrators; it made it possible for trainees to withdraw temporarily from the program without making withdrawal irrevocable and also made it possible for highly motivated individuals to accelerate the pace of their efforts and thus shorten their training periods.

Fourth, the level of financial support provided to the retrainees was found to determine, in large measure, the extent to which displaced workers participated in retraining programs. In particular, retraining generally "imposed a considerable financial hardship on the older, unemployed worker who was not accustomed to an intensive educational situation" (Shultz and Weber, 1966, p. 198). Legislation in certain states that denied unemployment compensation benefits to displaced workers who were enrolled full-time in privately financed retraining courses substantially reduced their enrollments in union-sponsored programs. In connection with this issue, the literature found that the longer the course, the more retrainees who fell by the wayside.

We now turn to the specific issue of the possibility of the retraining of older union members—those workers who might be eligible for mid-life career redirection. All of the literature agrees that senior union members are more prone than their younger counterparts to resist retraining to upgrade or keep their skills current. Also, displaced older union workers are less likely to take advantage of programs to retrain them for new occupations; they more readily choose lump-sum compensations instead (Levine, 1964, pp. 377, 379; Are Displaced Worker Plans a Flop? 1962, p. 75). When they do choose to retrain, however, older union workers find new employment more easily, relative to displaced workers in their age group, than do younger retrainees. For example, the comparative experience of displaced male retrainees and nontrainees about six months after the conclusion of the retraining program provided by the Armour Automation Committee in Fort Worth, Texas, showed that while unemployment tended to increase with the age of both retrainees and nontrainees, it did not increase as fast for the former as for the latter group (Shultz, 1964, p. 57).

These observations are consistent with our theory of union retraining. That an older union worker with seniority rights will be less motivated to upgrade or keep his skills current than his less-senior counterpart is implied by our theory, since, as we explained, the older worker with seniority rights can expect work offers at the bargained union wage largely independently of his own retraining efforts. It is not suprising that displaced older workers are more reluctant than their younger counterparts to undertake retraining for new occupations. That is so because, assuming that the retraining costs are the same for an older and a younger worker, the returns to the older worker will be less, other things equal, because he will have fewer years in which to reap the rewards. Nor is it surprising, finally, that displaced older retrainees have an easier time becoming reemployed than younger displaced retrainees, relative to their respective age groups. Again because of their shorter remaining work lives, older workers will retrain for a new occupation only when they have a better chance than the young of making the grade.

CONCLUSION

This chapter has described the literature's view that union-sponsored retraining programs are a device to maintain monopoly power, and has contended that this view is generally incorrect. A simple alternative theory was then developed; it enables us to explain the phenomenon of union retraining and to explain some common observations with respect to union-sponsored retraining programs that the literature has been unable to explain.

The theory provided here is that union-sponsored retraining programs are designed (a) to encourage relatively senior union workers to upgrade their skills when the increased productivity (and hence the value of the entire union's bargainable wage increase) justifies the cost, or (b) to enable technologically displaced union workers who choose retraining over straight cost compensation to gain employment in other productive occupations. Regarding the latter aim, a monopolistic element enters because the union stands to gain from retraining displaced workers for new jobs that are relatively noncompetitive (or complementary) with the union's jobs. That monopoly effect is small, however, in comparison with the usual union monopoly effect on the supply of labor, because the union must compensate its displaced members. The literature never mentions such an effect at all, which may be taken as further evidence that the effect is small.

Overall, we conclude on theoretical grounds that union-sponsored retraining programs are not used to perpetuate the union's monopoly power, that they are generally effective in enabling union workers to upgrade their skills, and that they are somewhat effective in enabling them to train for and gain other employment when they become technologically displaced.

The literature identifies the following general features of union-sponsored retraining programs as relatively effective in enabling displaced or about-to-be-displaced workers to become reemployed:

- Information services to cultivate a "sense of mobility" by informing workers about their best alternative job opportunities and how to capitalize on them;
- The use of the federal-state employment service when its activities are organized on a special project basis to aid these workers;
- Good training facilities for imparting the techniques of alternative occupations, whether union-controlled or not.

While the finding about the importance of the adequacy of the vocational training facilities—whether or not such facilities are union-controlled—is specific to the literature on union-sponsored retraining programs, the other observations serve to reinforce the results of the literature review on programs to retrain unemployed aerospace professionals for mid-life career redirection.

It appears from the above that counseling and job information services as well as vocational training are effective in programs for mid-life career redirection. Experience with union-sponsored retraining programs reveals that the worker's lack of awareness of his realistic alternative opportunities and how to capitalize on them has been a formidable obstacle to his effective readjustment to displacement and reemployment. In most cases, the displaced worker had been out of the labor market for so long that he possessed inadequate job-search skills. The consolidation of the public employment services in certain offices sometimes led to the provision of these information services.

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Chapter 8

FOREIGN PROGRAMS

by Anthony Pascal

Several industrial countries have instituted adult retraining programs that appear to be considerably more advanced than any programs in the United States. The foreign programs serve national economic purposes much broader than mid-life career redirection, but embody that function if only implicitly.

France, West Germany, and Sweden have the most extensive programs, followed by Britain and Canada. Except for France, all of these countries provide mid-life opportunities as part of an "active manpower policy" rather than as a direct response to the personal problems of workers in their middle years (Reubens, 1972). That is, the programs are designed to improve the efficiency of the various national economies by improving the stock of human capital. In particular, they aim to ease the transition of industrial workers from labor surplus to labor shortage situations, be these industries, sectors, or geographic areas. Many of them are also intended to smooth the functioning of labor markets over time by expansion of training activities in times of economic slack and, in theory at least, by releasing flows of more skilled workers in periods of labor shortage. (OECD, 1969a; for a historical view, see Gordon, 1964.)

In most of these countries, then, although the intention has not been to facilitate mid-life redirection, knowledgeable people could use the programs to that end. Whether they do, and to what extent, is difficult to ascertain since systematic assessments of the programs are seldom made (Dror, 1974). We present below some evidence from Canadian programs, however.

An important distinction between the American and foreign systems has been the notion in some countries that retraining opportunities belong to the worker as a right, in the same way that unemployment compensation or disability insurance or, in some countries, health care may be organized. This, a postwar departure in social-industrial thinking, seems to have made a major difference in the seriousness and commitment with which the various governments have allocated resources to adult vocational training programs. (Unfortunately, we were able to discover no useful materials describing adult education programs in Socialist nations, although such information obviously would be highly interesting.)

Except for France, the programs tend to be dedicated to upgrading the skills of workers who intend to return to the same employer or who in fact continue on the job, taking training courses on a part-time basis, or at night, or during vacations. *Career change*(a term little used in official descriptions of these programs since they are officially oriented to blue-collar workers) usually results from training only when the worker has actually lost his job in an industry experiencing labor redundancy. Manpower training to provide new sets of skills to workers displaced by declines in demand, advancing technology, shifts in government procurement, and the like, are seen as proper functions for adult training schemes; foreign programs contain little rhetoric touching on job discontent and alienation from work, themes that engaged our attention in beginning the literature evaluation. The French and West German programs seem to be developing in the direction of full-fledged systems for recurrent education, however, which may facilitate redirection as a byproduct of a general loosening of the time constraints on learning, work, and leisure.

Articles and reports that describe foreign programs are almost entirely descriptive. The typical "study" sketches the legislative history of the program, the objectives of its formulators, and its current administrative provisions, and may include some statistics on coverage, costs, and enrollments. Virtually none attempt to trace program benefits, even strictly economic benefits, or to link benefits to resource costs. In the few attempts at program evaluation, the quality level of the analyses is distinctly inferior to what has been done in the United States. (The foreign "evaluations" are covered in the sections on various foreign programs below.) Thus, we can hardly extract lessons from foreign experience if we apply standards of scientific procedure of even the most minimal rigor. When this stricture is combined with the different social, political, and economic environments prevailing in other countries, we would have to argue that the guidance to be derived from foreign experience is slight indeed. We can gain insight into appropriate responses in the field of adult training by reviewing some aspects of the justification for programs, and the administrative and particularly the financial arrangements they have adopted. This we hope to do by reviewing the scene in a number of selected countries.

FRANCE

The most far-reaching system of compensated adult education was established in France with the enactment of the Continuing Vocational Education Act of 1971 (OECD, 1970).

The new act established the principle of continuing vocational training as an integral part of lifelong education, such training consisting of initial and further training for adults and young persons who are in, or about to enter, employment. Its stated purpose is to enable workers to adapt to changes in techniques and in conditions of work and to promote their social advancement and participation in cultural, economic, and social development (Carnegie Commission, 1973a).

An employer-employee payroll tax of 0.8 percent on each (which will rise eventually to 2 percent each) provides funds to maintain a worker's income, at 90 percent of the current average wage in his occupation, while he is on leave from work for educational purposes. Training may be directly vocational in the current occupation or in an alternative skill, but education for individual development is also covered as long as approved by a joint industrial council. Up to a year's leave or up to 1200 hours of part-time instruction may be taken. The government provides physical facilities and instructors for workers whose employers have not made training resources available directly. Interestingly, those with no paid employment, such as housewives, are not eligible.

A substantial fraction of the French labor force has taken advantage of the program ("Workers Sabbaticals," 1974), but no more than 2 percent of the work force of a given firm need to be released at once. From the beginning, however, it has been feared that employers would be reluctant to offer or to finance basic education for their workers unless it could be directly linked to on-the-job productivity. Another concern is the expectation that managers, technicians, and professionals will be most likely to take advantage of the act's provisions, while the indifference or antipathy to schooling by manual workers would not be overcome (Reubens, 1972). Whether these fears are justified would require careful statistical analyses of the process and effects of adult retraining in France. We have been unable to find such analyses in the literature.

WEST GERMANY

The German approach, under the Omnibus Employment Promotion Act of 1969, is directed toward upgrading the quality of labor force skills. Virtually all workers are entitled to training, which is heavily subsidized by the government and is financed by a payroll tax collected as part of the unemployment insurance system. Workers receive 90 to 95 percent of their former wages while training and, if necessary, maintenance allowances while searching for new jobs. Applications to pay the costs of courses are rarely denied, although many of the educational experiences sought have been frankly avocational (Gass, 1973; OECD, 1970). About 1 percent of the German labor force has taken advantage of the scheme (even in periods of very full employment) but the trainees have been predominantly young men (under 35) with considerable levels of attained skills, not older workers, women, or the disadvantaged.

The program has not been used as a counter-cyclical device either in regulating the number of training slots or in setting the taxes that finance the scheme. There have also been complaints about the inequitable method of financing: all workers pay, at least to the extent that one believes the payroll tax is pushed backward onto the workers and reduces wages, but only those who volunteer reap the benefits (Reubens, 1972; Carnegie Commission, 1973a). The Federal Republic also has an extensive system to cover paid educational leave for civil servants at all levels of government.

GREAT BRITAIN

British job training is focused on the manual worker. The system established by the Industrial Training Act of 1964 consists of a joint effort by government and employers, but emphasizes the employer role in organizing and providing training. A system of grants and levies attempts to equalize provision of occupational training among the various firms making up 29 industry groups. Mainly covered are on-the-job-training and short upgrading courses (Hansen, 1971; Myers, 1969; OECD, 1969b). Proposals to greatly expand direct training in government institutions are designed to secure opportunities for those who cannot benefit from employer-based training because they are not employed or because they want to switch employers or even occupations. Thus, training for career redirection is dependent on a substantial expansion of the number of places at Government Training Centers (Reubens, 1972).

There have been attempts to evaluate at least the direct economic returns of training in the United Kingdom (e.g., Ziderman, 1969). Since no data on post-training wages and employment stability have been collected, all benefits are calculated on the basis of "reasonable assumptions" as to the consequences of training with respect to employment and earnings. The analyses are therefore less than dependable as guides to policy, although they tend to show high benefit/cost ratios and short payback periods. Neither is the attempt made to calculate values of even the indirect economic effects (e.g., induced employment, higher profits, spending multipliers on the positive side; displacement or lowered wages on the negative side), and no effort seems to be directed to the noneconomic consequences such as job satisfaction, political behavior, social deviance, or the like.

SWEDEN

The Swedish government has adopted what is called an Active Manpower Policy to cope with adaptation of the labor force to changing economic conditions and to create more employment opportunities (see, e.g., Reubens, 1972). Sweden now devotes from 2 to 3 percent of its GNP to these sorts of manpower activities (Carnegie Commission, 1973a, p. 13). An important component of this policy has been adult retraining schemes, which in fact have the capacity to absorb as much as 3 percent of the total labor force. And, indeed, the most interesting aspect of Swedish policy has been the deliberate use of retraining (and other labor market measures) as an anticyclical device. The numbers enrolled in training courses rise and fall with the unemployment rate. Fragmentary evidence seems to indicate that the graduates of Swedish programs fare well on the job, but there has been little in the way of systematic analysis (OECD, 1969a). Retraining does seem oriented to disadvantaged workers, e.g., women, older workers, dropouts, and residents of depressed areas, and so has only limited applicability to the design of a broad-based occupational redirection scheme.

CANADA

[illegible] the Occupational Training for Adults (OTA) program is the cornerst[illegible]er policy. Many people who wish to shift occupations take advantage of the program, which offers both institutional and on-the-job-training. A useful if incomplete analysis of the program has been prepared by the agency in charge, even though it is marred by the failure to include data on control groups who have not received program services. Unfortunately, the record of placement of people in the new careers they desired is not very encouraging. Over all, only about half of the male redirection trainees seem to secure employment in the fields they prepared for, and the fraction of successes has ranged as low as about one-third for managers, technicians, mechanics, and repairmen. Only about 80 percent had any kind of employment at the time of a follow-up survey (Department of Manpower and Immigration (Canadian), 1969). In contrast, men who engage in skill-upgrading courses (additional training in original occupations) had about 95 percent employment rates and about 80 percent found work in their desired occupations. The number of female trainees was not large enough to permit the compilation of similar figures for women. However, the earnings gain for program participants who succeeded in finding work (occupation shifters) was about as large as it was for those taking skill-upgrading instruction (occupation maintainers), according to a survey taken three months after graduation (Department of Manpower and Immigration, 1969). It should be reemphasized that because no control groups were studied in this survey, we have no way of knowing whether the results are due to changes in general economic conditions, special characteristics of trainees, or other factors not related to the specified treatment.

JAPAN

The Japanese seem to have no programs specifically directed to or even very usable for the engineering of mid-life career shifts. There is extensive use made of TV and radio for educational broadcasting, but only a minor fraction seems to be devoted to vocational and technical subjects. In addition, there is a nationwide network, in process of expansion, of audiovisual libraries devoted to adult education. University extension and vocational training programs are also available. It is likely, though unsubstantiated, that the traditional strong relationship between employees and firms militates against mid-life switching. On the other hand, many Japanese civil servants retire at 50, which would seem to generate considerable need for preparation for new careers. In any case there is little evidence that the Japanese have proceeded very far in mounting true mid-life career redirection programs (all evidence from Hatano and Saito, 1970).

CONCLUSIONS

In essence, adult training in industrial nations abroad has been devoted to the following ends:

- Filling the gaps in training provisions offered by employers
- Equalizing economic opportunity
- Balancing the benefits accorded to consumers of higher education
- Attempting smooth-out cycles in the labor market

These goals require acceptance of public responsibility for securing released time from work, the establishment of schemes for maintaining the income of participating workers, and the inclusion of occupational education in lifelong learning programs.

The foreign programs seem to cover many categories of workers who are left out in the cold by American programs. To quote Beatrice Reubens, "Among the groups who seem to be inadequately covered at present are the unemployed above a low skill level, mature re-entrants to the labor market, those seeking advancement in new fields, and those who are displaced due to economic or political factors" (Reubens, 1972). These are almost precisely the groups a mid-life redirection program would attempt to reach.

On the other hand, program planners must also recognize the weaknesses of approaches adopted abroad, including the following:

- There seems to be some difficulty in restricting the programs to occupational as opposed to recreational, cultural, or personal development ends.

- The programs tend to appeal most to already well-prepared, relatively young males who have recently completed their formal training.
- All of them depend on a plenitude of jobs being available to trainees, which in turn presupposes a level of demand in labor markets that the United States has not enjoyed for some years.
- Some programs are so generous in levels of support and freedom of approach for participants that there is a danger that too many people will try to avail themselves of the service at once, placing a politically unacceptable burden on the system and on the economy.
- The Canadian program, the only one for which outcome data are available, appears not to work very well for redirectors.

In sum, there is a definite, if incomplete, lesson derivable from foreign experience. American conditions would seem to require much more explicit control of conditions so that the program will truly serve the needs of mid-life redirectors. At the same time, the method of financing must be much more carefully thought out. Since many of the beneficiaries in the program we have in mind will turn out to be people in the middle-income ranges, a greater dependence on user charges to finance it seems appropriate. Finally, efforts to find new employment rather than merely to prepare people for it must be pushed if American programs offering second chances are to be successful.

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Chapter 9

SPECIAL REDIRECTION EFFORTS

by Velma M. Thompson

This chapter describes and evaluates a number of efforts designed expressly to help people in mid-life who were interested in changing careers. It concentrates on programs for aerospace workers and on adult education programs conducted on university campuses.

RETRAINING AEROSPACE WORKERS

Programs to aid unemployed aerospace engineers and scientists ranged from those based on the assumption that comparable jobs were available somewhere in the economy to others which assumed that retraining and skills conversion were required to get these engineers reemployed. Thus, the programs varied from clinics to teach engineering professionals the art of job-finding to programs providing institutional and on-the-job retraining. Some programs were announced specifically as a test of the possibilities of mid-career transfer for a group of people vulnerable to shifts in national policy (Ziegler, 1971-72, p. 19). Programs have been sponsored by the federal government, state and local governments, professional societies, trade associations, merchants and manufacturers associations, universities, companies, and alumni associations.

Many articles were written upon the launching of various programs for aiding unemployed aerospace engineers and scientists that praise these programs, but few have assessed their effectiveness. Of the thirty-four items in the Bibliography that discuss the unemployment of aerospace professionals, only five focus upon an assessment of programs to aid them: Allen (1972), Olsen (1972, 1973), Shapero (1972), and Sweeney (1973).[1] They are evaluated as a group below for their internal validity, whether their approaches are consistent with standard scientific methods of evaluating training programs; and for their external validity, whether the authors' conclusions are in agreement, seem consonant with general research in the field, and can be generalized to other programs for mid-life career redirection.

INTERNAL VALIDITY

Those items which attempt to assess these programs constitute loose assessments of a limited number of different programs and suffer from a tendency to assess the efficiency of retraining programs in terms of the rate of placement of trainees, immediately or within a very short time after the completion of training. A preferable measure for our purposes would be a comparison of the relative gains in wages of those unemployed aerospace workers completing retraining over a period of months or years with the wage experience of control groups of unemployed aerospace workers who did not participate in training programs, measured for trainees of varying age and other characteristics, completing different types of retraining programs. Also, an itemization of the costs associated with the various training programs would enable us to compare their merits.

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[1] A Mid-Life Career Redirection Literature Review Checklist was prepared for each item that treats retraining programs to aid unemployed aerospace engineers and scientists. Checklists are available upon request.

The literature uniformly sidesteps the question of which types of programs would be expected, a priori, to be successful in enabling former aerospace professionals to become reemployed. One would expect that those programs which attempted merely to provide school-like courses in the technicalities of proposed alternative vocations would prove less successful than those programs that augmented the teaching of vocational technicalities with instruction in job-search skills adapted to the specific attributes and requirements of former aerospace professionals. While previously existing, heavily subsidized, schools already provided technical courses at some comparative advantage, not enough institutions were available to teach the particular job-search skills.

As we shall see, the studies agree that the technical training programs, in fact, were failures, while programs that mainly performed information-producing employment services to reduce applicant and employer hiring costs proved highly effective in enabling former aerospace professionals to become reemployed. They also agree that, in fact, both private and public employment agencies proved somewhat effective only in placing blue-collar aerospace workers. Part of the reason for this was that a former aerospace professional, having been informed by a private employment agency about his realistic alternative job opportunities and how to sell himself to alternative employers, could then take a job with an employer the agency did not send him to, and thus save himself that portion of his salary due to the agency as a fee. Thus, private employment agencies, which habitually collect only when they find a specific job for a client, were left with little or no incentive to produce effective information services for former aerospace professionals because, although the social return from placing former aerospace professionals was great, the private agencies were unable to capture the private returns to the effective information-producing activities. There was greater profit in finding jobs for people who were already aware of the range of job opportunities and knew how to conduct themselves in job interviews. Such people go to a private employment agency only when they are looking for specific job openings. Similarly, public employment agencies generally did not provide effective information services; such agencies traditionally serve a less-educated clientele with qualitatively different job-search requirements from those of unemployed aerospace professionals.

EXTERNAL VALIDITY

The few items in the literature that assess these programs agree on one point: with few exceptions, the programs proved mediocre in aiding these workers to become reemployed. With few exceptions, those programs aimed at retraining aerospace professionals for other fields of engineering-related work have been labeled failures—except, in some cases, by the governmental or school officials who administered them.

The Unsuccessful Programs: Reasons for Program Failures

The unsuccessful retraining programs are said to have failed mainly because of inadequate program design and employers' resistance to hiring former aerospace professionals. Some programs offered little opportunity to learn new job skills. For example, one program gave a four-week orientation course on city governments to former aerospace workers, on the explicit assumption that their expertise could be transferred directly to the field of urban planning without *any* retraining (Ziegler, 1971-72. p. 19). Yet there is recent evidence that some retraining is required to turn an aerospace engineer into, say, an environmental engineer, especially if he is to compete with younger, recently graduated environmental engineers (Sweeney, 1973). Other training programs successfully imparted a new skill to their participants or at least made them much more familiar with the nature of the proposed new work situation; however, "overall findings indicate that these programs and the number of others purporting to guarantee employment in a new skill field were, for the most part, not directed toward any real job vacancies where an engineer could put his new skills to work" (Allen, 1972, pp. 250-251, quoted by Sweeney, 1973).

Potential employers were found to have considerable resistance to hiring former aerospace professionals for non-aerospace work, especially if the employers were to bear some of the costs of retraining. Some reasons cited for their reluctance were that the former aerospace professionals sought salaries generally about 25 to 40 percent higher than employers were willing to pay for the openings available, leading prospective employers to suspect that the specialists would return to aerospace once conditions in that industry improved; and that employers regarded aerospace professionals as both "overspecialized" and insufficiently cost-conscious. Thomas Allen analyzed 1601 replies to a questionnaire he mailed to laid-off aerospace engineers in Los Angeles and Orange Counties and found the so-called "aerospace stigma" to be consistent with the engineers' replies. "Only those who went into business for themselves showed any strong commitment to remaining in their new employment and not attempting to move back to engineering or professional work when the market improved" (Allen, 1972, p. 239). Allen also found that many engineers in his sample were "overspecialized" in that they lacked general engineering skills that they could transfer to other phases of engineering. Allen rationalized the professionals' alleged lack of concern for costs as reflecting the high critical tolerance limits associated with aerospace projects, in contrast to those of civilian engineering projects.

Age, however, was a factor that inhibited the opportunities for career transfer of some of these professionals. The older ones—and "older" was variously defined as over 49, over 55, and, in one case, over 45—had the greatest difficulty in finding employment outside the aerospace industry and often were "knocked out of the aerospace defense markets altogether" (Shapero, 1972, p. 45; Thompson, 1972, p. 92). That such older unemployed engineers tended to be less flexible than their younger counterparts with respect to salary requirements was explained by the Special Assistant to the Chief of the Employment Services Division of the Washington, D.C. Manpower Administration: "The older man probably has to put two kids through college, make the final payments on a mortgage, and maybe help support his parents" (Allen, 1972, p. 275). Allen's survey led him to conclude that "employers associate age [over 45] with inflexibility, technical obsolescence, health problems and high pay aspirations" (Allen, 1972, p. 275). The problem for older workers was still further accentuated by an upsurge in the supply of young professional and technical workers, caused by the graduation from college of the first products of the postwar baby boom (Runyon, 1970, p. 238). According to the department head of a university engineering school, older aerospace workers were likely to be relatively technologically obsolescent: "Our freshmen start right in on a computer; they deal with advanced concepts and are taught to think conceptually; the man who graduated 25 or 30 years ago doesn't know computers and if he hasn't been going back to school regularly, he no longer even knows the field in which he was trained" (Cranston, 1972, p. 162). Yet, "none of the programs to aid the unemployed appear explicitly to recognize the age problem" (Shapero, 1972, p. 45).

While the three variables discussed above—inadequate program design, employers' resistance to hiring former aerospace professionals, and age discrimination toward former aerospace professionals above 50 years of age—are mentioned in all the items attempting to assess the general failure of the retraining programs in question, Allen attributes the failure partly to the nature of labor market information systems and their effects upon former aerospace professionals. The goal of those is to transmit information about the characteristics and availability of job vacancies to potential workers, and about workers' characteristics to potential employers. Allen conjectures that there is a "barrier" to the employment of former aerospace workers outside of the aerospace industry resulting from a possible "increasing dependence of workers and employers on informal labor market information systems which in turn discriminate against those workers outside any specific industrial or occupational labor market" (Allen, 1972, p. 2).[2] Hence, Allen considers the extent to which the engineers in his sample who succeeded in becoming reemployed utilized informal sources of job-finding.

This issue of the relative importance of informal and formal sources of job information may be significant, in general, to any person attempting a career transfer into a different industry, since such an individual is likely to have fewer professional contacts in that industry than an individual already working in that industry. Informal sources of jobs are those that do not involve the use of any outside organization or agency to arrange a contact between the employer and the job applicant. They can include referrals by present employees, referrals by other employers, friends, or acquaintances, and "gate applications" made in response to a sign posted on the employer's premises or made by simply walking in without any referral. Formal sources include state employment services, private employment agencies, newspaper advertisements, colleges, and professional societies. The rationale for Allen's conjecture is that the use of informal sources can entail lower applicant and employer hiring costs than those of formal sources (Doeringer and Piore, 1971, p. 138; Rees, 1966). For example, with respect to employee referrals, friends can give an applicant inside information on the nature of prospective jobs, and are unlikely to recommend potentially poor workers since their own reputation at work may be affected by the quality of their referrals. And employers who are satisfied with the quality of their present workforce are likely to get applicants of similar quality.

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[2] This interpretation of Allen's hypothesis is inferred from his statistical tests. Sometimes Allen discusses the hypothesis as a possible growing dependence on employee referral in hiring decisions across the whole economy (p. 2); sometimes he treats it as descriptive mainly of a possible growing dependence on employee referral in hiring decisons in the aerospace industry (p. 56); sometimes he treats it radically differently as the possible "segmentation" and "Balkanization" of labor markets (pp. 31-33); and sometimes he interchanges hypotheses in the same sentence.

The responses to Allen's questionnaire corroborate the greater preference of engineers for informal sources of job information as well as the superior effectiveness of these methods for all the engineers in his sample. However, those engineers in Allen's sample who found employment in occupations other than engineering used informal sources about as much as did *all* those engineers who found jobs, including jobs in engineering (Allen, 1972, pp. 208, 215).

The Successful Programs

Nevertheless, there were a few retraining programs identified by at least one author as effective in terms of rates of placement. Those programs reduced retrained applicants' information costs by rigorously informing them of the nature of their prospective jobs outside aerospace, or reduced the costs to employers of learning about retrained applicants (Allen, 1972, pp. 267, 277).[3] One program required that trainees be willing to relocate as a necessary screening criterion, and included the counseling of trainees "on career opportunities, wages, type of work conditions, etc., so that he is fully aware of all aspects of the job for which he is being trained" (Olsen, 1972, p. 19). Another effective program required unemployed scientists and engineers to go out and find jobs for others like themselves; this procedure took on the form of a personal validation system that professional headhunters seldom achieve, and broadened the perception of the unemployed jobhunter as to what jobs were available and what jobs technical people could perform (Shapero, 1972, p. 46). The writer who identified this program as effective noted that "there is something very educational in the frustrating experience of trying to get another unemployed engineer to realize the opportunity you've gotten for him when he stubbornly insists it doesn't fit his capabilities" (Shapero, 1972, p. 46). Another effective retraining program attempted to identify potential placements prior to the beginning of the program and followed this up by an intensive effort to place graduates of the program in these jobs upon their completion of the orientation phase of the course (Allen, 1972, p. 251).

The literature agrees that, in general, these information services were ineffectively provided by federal and state employment services. Yet, after the magnitude and duration of unemployment of former aerospace professionals became apparent, public employment services consolidated their aid to those professionals in certain offices. The consolidation sometimes led to the creation of workshops that produced efficient information services and proved successful in placing former aerospace professionals in alternative jobs (Allen, 1972, pp, 252-253). Underwritten by government funding, some societies of professional aerospace workers provided similar efficient information-producing services with similarly effective placement results (Allen, 1972, pp. 252-253).

The next section restates the rationale for these results and relates them to the general question of what program features would be effective in retraining programs for individuals attempting mid-life career transfers.

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[3] Allen also identifies as effective those programs that created new jobs outright for unemployed aerospace engineers. We ignore such programs since they likely fall outside the realm of possibility with respect to current policy recommendations for individuals seeking mid-career redirection. In general, Allen suggests governmental subsidization of programs to enable these workers to become reemployed, without providing any justification for such subsidization.

CONCLUSION

The successful programs to help former aerospace professionals become reemployed did more than provide school-like technical courses in proposed alternative vocations. The less successful programs that did confine themselves to technical course offerings ignored the special attributes and requirements of former aerospace professionals, several of which hindered their ability to find employment outside aerospace markets. One writer said that the effective programs at least served to "lower engineers' [employment] expectations in an overall sense" (Allen, 1972, p. 253). Also, the narrowly technical programs were often only tangentially administered by educational institutions; historically proven educational institutions likely would have done a more efficient job of conveying the techniques of different vocations.

Public and private employment agencies generally did not produce those information services which proved effective in enabling unemployed aerospace professionals become reemployed. Former aerospace professionals benefited from information about their realistic alternative jobs and how to sell their "reformed" selves to employers. Public employment agencies generally did not provide these information services. Such agencies traditionally have served a less-educated clientele with different job information requirements, and former aerospace professionals were generally sufficiently scattered geographically that the unemployment problems of the few aerospace professionals appearing at each government employment office were minimized.

Private employment agencies placed a low priority on the production of efficient information services for former aerospace professionals, as they were unable to appropriate the private returns to these services. Once a buyer of these services possesses the information about his best alternative occupations and how to behave in an interview, he can secure a job independently of the seller. And if a private employment agency were to attempt to sell its information directly as a private counseling service, it would have little incentive to produce the efficient information, because its receipts would then not be tied to the quality of its information. Knowing that, its customers would not be willing to pay much for its information.

With respect to the general question of what program features would be effective in programs for people attempting mid-life career transfers, it appears from the above that the provision of counseling and job information services should be an important feature of such programs. Let us assume, for example, that market conditions are such that for at least the next ten years, research physicists cannot expect to earn salaries in their field comparable to those of five years ago. Bitter as the truth may be, the physicists should be thoroughly informed about it and accept it so they can convince prospective employers in alternative occupations that they intend to remain in any new occupations they enter. A more obvious example of career-changers who will require intensive information services are women whose children have grown and who have been out of the labor force for fifteen or twenty years or have never worked outside their homes. Usually, such a woman has a broad range of information requirements. She wants to know at least the following: In what occupations does she have a comparative advantage? What are the current and future employment opportunities for women in those occupations? What are the comparative costs of and returns to her entering those occupations? A variety of programs for middle-aged women have been introduced recently on college and university campuses. While no study has yet identified which of those programs are proving successful in aiding the career transfer of middle-aged women, we expect the successful ones will be found to provide abundant counseling and job information services over and above technical training.

ADULT EDUCATION PROGRAMS

Our goal here is to determine the relevant lessons for mid-life career redirection from the literature on U.S. college and university programs in adult education. The literature surveyed here includes articles, books, and prospectuses for such programs. The literature agrees that a vast system of part-time and continuing education for adults has developed in the United States. A substantial number of adults take college courses on a part-time or intermittent basis, and the number is constantly increasing (Hiestand, 1971, p. 13). Many of them are likely enhancing their skills and performance levels in their career fields. It is true that some are slowly transferring their career interests from one field to another; but because this kind of education leads only to slow and evolutionary changes in careers, and because many adult students do not have specific career interests, the literature on part-time and continuing education is discussed here only briefly. Rather, we focus on those few items in the literature that describe or attempt to assess the experiences of mid-life students who are attempting more radical changes in their careers on college or university campuses.

We first briefly discuss the literature on part-time and continuing education for adults. We then review the few available descriptions of programs in which people are attempting mid-life career redirection on college and university campuses, focusing first on the burgeoning programs for women. We describe the nature of the majority of such programs, and a particular program for the occupational redirection of women in their middle years. We then review published case studies of men and women aged 35 and over who have attempted career changes on university campuses. Those few items that attempt to assess these programs are evaluated for their internal validity, whether their approaches are consistent with standard, scientific methods of evaluating training programs, and for their external validity, whether the conclusions can be generalized to other programs for mid-life career redirection.[4]

Part-Time and Continuing Adult Education Programs

The major portion of the literature on part-time and continuing adult education programs was found to discuss, subjectively, program features that the authors believe would or do encourage greater participation. The following features are suggested: educational and employment counseling, limited course-loads, flexible schedules, liberal provision for transfer of credits, credit for life experience, neighborhood classes, child-care facilities for women with young children, scholarship aid for part-time study, independent study, short-term residence requirements, correspondence study, programmed learning, and job placement assistance. Many of these features are currently incorporated into ongoing part-time and continuing education programs for adults on college and university campuses.

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[4] A Mid-Life Career Redirection Literature Review Checklist was prepared for each college- or university-based program for mid-life career redirection. Checklists are available upon request.

All the authors of these subjective items agree that counseling is the most important feature of any adult education program. (Perhaps the acceptance of this unanimity should be tempered by the fact that most of these authors are themselves counselors.) These authors generally do not explain precisely what they mean by counseling, however—whether it consists merely of a chat with a counselor upon admission, or something much more intensive. And rarely do the authors assess the relative worth of one, or a combination, of the other features; when they do, the assessments remain subjective and are not readily generalizable to programs that lack these features.

Programs for Women

In 1970, at least 300 colleges and universities provided continuing education programs or special educational services designed primarily for adult women (Aanstad, 1972, p. 11). The goals of these programs are generally "broad and unfocused"; very few of them are specifically directed to the retraining of mature women for labor market employment (Berry and Loring, 1970, pp. 499-500). While the literature does not tell us to what extent women are using the programs for mid-life career redirection, all of the programs provide educational and vocational counseling and guidance services (Berry and Loring, 1970, pp. 499-500) and, hence, are likely providing their mature women participants with information about themselves and their career opportunities.

The literature surveyed here describes only one program for the occupational redirection of mature women: the Job Horizons pilot program at Middlesex County College in Edison, New Jersey (Reynolds et al., 1969; Voorhees, 1969). The program was designed to retrain mature housewives, who had been away from study or paid work for a number of years, for clerical employment. This program will now be described in some detail.

Eligibility for Job Horizons for Women—a one-year, two-quarter certificate program—was limited to mature married women with a high school diploma or its equivalent. Twenty-eight such women, aged 25 to 55, enrolled in the first year of the program. Demand for clerical personnel in central New Jersey was a major factor in the choice of vocational training provided by the program. The goals of the program were: (1) to provide training and instruction at the college level for skills that would enable the participants to enter the labor market above the unskilled level, and (2) to develop the women's self-confidence by helping them understand the adjustment problems inherent in their assumption of new roles in society.

Counseling was stressed throughout the program, from admission through placement. Individual admission counseling was required to help clarify the applicant's objectives and to determine academic potential, and group counseling was provided in the Social Science course. The admission counselors reported that most applicants had been active in the community in civic and social volunteer work, and that many of them had wanted to seek paying jobs but had hesitated for lack of self-confidence. All the participants stressed the importance to them of learning side by side with women who faced similar problems; they did not wish to compete with younger students.

The study program consisted of four one-year courses in English, Social Science, Typing, and Business Training (applied mathematics and office machines). Classes were scheduled between the hours of 10:00 a.m. and 2:00 p.m. to minimize interference with family routines. Early in the first semester of the new program, the administrators realized that the students needed to be taught study skills. Learning-to-learn-again proved to be the first obstacle the women had to overcome. Hence, the original study program was augmented by lectures on note-taking and study habits.

Student morale fluctuated widely in the first quarter, and just before Thanksgiving recess, fear of failure reportedly seized everyone. Instructors met individually and jointly with those students identified as experiencing the severest anxieties.[5]

At the end of the first semester, five women had withdrawn (two left because of the workload, one because of pregnancy, and two because of illness). The rest performed very well in the first-quarter final examinations. By the second semester, a change in attitude was apparent among the now-veteran students. Most of the women had become realistic about their expectations and self-demands. As the class moved closer to the time when the graduates would be seeking employment, employment counseling was stressed. Representatives from local industry gave the class first-hand information on employment opportunities and job expectations. Professional businesswomen and a charm expert addressed the class. No students withdrew during the second semester.

A survey taken six months after graduation determined that only three graduates were not working; of the three, one was studying full-time for an Associate of Arts degree, one wished to work only part-time but had not been able to find an appropriate job, and the other was critically ill. Four of those employed had accepted employment on a part-time basis, working from 15 to 25 hours a week. Those who accepted full-time employment worked as executive secretaries, secretaries, bookkeepers, clerk typists, payroll clerks, and senior library assistants, and one became manager of a sales training program in a large department store. Several were continuing their college studies through evening study.

Job Horizons was made a continuing program at the college from 1967 through 1972; over 150 mature women completed the course. It is interesting to note that in September 1973, the Job Horizons program was replaced by a program entitled "Women: Careers and College," which allows women to explore a broader spectrum of career opportunities.

When we consider the internal validity of the items that attempt to assess the Job Horizons pilot program, we conclude that the items provide no method for ranking program variables according to their importance (if any) in enabling program participants to secure training-related employment. Shortcomings of the training program assessments include the small sample size, lack of any cost assessment, the lack of a control group of similarly qualified mature women who may have sought clerical jobs without the benefit of a retraining program, and the applicant "creaming" involved in the trainee selection procedure (since the selected trainees were both high school graduates and "joiners," already actively participating in community programs).

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[5] A number of the discussions of counseling and guidance services for mature women on university campuses report the presence of serious anxieties among women upon their return to school. See, for example, Aanstad (1972, p. 22).

Although the items do not enable us to rank program variables according to their absolute effectiveness, we shall itemize those program variables which the literature identifies as relatively effective in enabling participants to complete the program successfully. The participants agreed that they had to have family cooperation for them to remain in school; children had to assume more responsibility around the house, and social engagments had to be curtailed to allow time for participants to complete their homework. Other variables reported as relatively effective were: the program's clearly delimited training goals and the meshing of these goals with the area-wide demand for clerical personnel; flexible scheduling of classwork; and the provision of extensive educational and employment counseling. (The Conclusion discusses the possibility of generalizing these variables to other programs.)

Redirection Programs on University Campuses

The Hiestand Study. Although not a study of a particular university program, Dale Hiestand's report on seventy men and women aged 35 and over who undertook graduate work to make a career change provides a backdrop of information about people undertaking mid-life career changes on university campuses (Hiestand, 1971).[6] Hiestand relates types of career change to different reasons for entering or reentering graduate school, and discusses the relative importance of factors considered barriers to reentry for students aged 35 and over. Entry into a new career, or a substantial change in the nature of one's career, is equated with enrolling in professional or graduate school after age 35 for full-time study for at least one year, or for a part-time schedule that would permit the equivalent of a year of full-time study to be accomplished in no more than two years. To count as a career change, Hiestand required that these study periods be preceded by significant work experience, or, for women, by time out of school. The choice of full-time or nearly full-time study as a criterion of shift in occupational field or in the nature of one's career was based on the presumption that a year or more of full-time professional study substantially changes the nature and level of one's skills.

Hiestand reports on a questionnaire survey of seventy men and women who had returned to school after age 35 in four metropolitan areas: New York, Chicago, St. Louis, and Nashville. The sample, containing slightly more men than women, was distributed among sixteen disciplines or departments, from education (which had the largest number, sixteen) to law and international studies, which accounted for one apiece. Unfortunately, the author had little control over the sample selection (department chairmen, deans, or their secretaries chose more than half the people in the sample). He also collected information on admissions procedures and attitudes toward older students from application and admission records and from interviews with academic and administrative officials.

The author postulated that persons who enter graduate school in their middle years do so for any of several reasons: interests or ambitions change or develop; people wish to improve themselves personally or professionally; economic conditions compel a career reorientation; or opportunities for further schooling arise because of changes in personal finances or in family or work responsibilities. More than half the people surveyed stated that development of interests was a key element in their decisions, irrespective of financial gain. More than one-third indicated a desire to improve themselves as persons, again irrespective of financial gain. Very few listed forced change or influences from within their families. Hiestand did not inquire beyond the respondents' overt statements about changes of interest or ambition.

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[6] Hiestand's study is a precursor of the Clopton study discussed in Chapter 1 of this report; the Clopton study similarly describes middle-aged people who used university training to effect their career changes. See Chapter 1 and Clopton (1972).

With respect to the type of career shift respondents made or were making by returning to school, 15 of the respondents were entering a profession, 20 were moving upward within a professional field, 18 were shifting between closely related fields or within a broad field, and 17 were making major changes in occupation. Hiestand characterizes and defines types of career shift by the degree to which new occupations use skills previously acquired for old occupations. Hence, a shift between closely related fields or within a broad field is characterized as a "45° turn" in which people continue to rely heavily on previously acquired vocational skills; a major change is characterized as a "90° turn" in which people no longer rely on previous skills. Most respondents who were entering or preparing to enter a professional occupation for the first time were women. Nearly all the people moving upward within a professional field were making what could be considered normal upward movements toward new or increased administrative responsibility or toward a greater degree of specialization; in all these cases, the added education might later permit a major shift in function and income—end products somewhat contrary to the respondents' reported developmental reasons for returning to school, but which the author accepted. Those respondents shifting between closely related fields or within a broad field consisted mainly of men (14 men as against 4 women). The final group of 11 men and 6 women were making more drastic occupational changes, for example, an interior designer to educational administration, a sales representative to anthropology, and a dentist to elementary school teaching.

The reported relationships between the types of career change and expressed reasons for returning to school were the following: a large majority of those entering a profession for the first time (11 out of 15) and those making a major shift in their occupation or function (11 out of 17) stated that they were doing so either because they had a high intrinsic interest in the subject or field or because a change in their field or function appeared desirable or necessary. Nearly all who returned primarily because financial support became available were moving upward within a profession. People shifting from one field to a related field or making a major reorientation within a general field mentioned diverse reasons for returning to school, with no one reason or set of reasons dominating.

Augmenting the results of his questionnaire with other information collected from academic and administrative officials, Hiestand discusses, but does not assess, the relative importance of factors considered barriers to reentry for older students, such as admission procedures and availability of financial aid. Two general conclusions emerge from that discussion: first, the older the applicant, the higher his qualifications must be to gain admission; and second, the middle-aged student is likely to be found on *urban* university campuses, beginning with part-time study and moving into full-time study after he has assured himself that he can meet academic requirements and can arrange his personal affairs satisfactorily.

On the basis of published nationwide surveys and his own surveys of dominant graduate schools, Hiestand estimates that 6 to 7 percent of the students in the nation's graduate and professional schools are 35 years of age or older. On the basis of data from his sample, he concludes that a sizable percentage of these people are in the process of making substantive changes in their career fields.

The author ends his study by suggesting that guidance specialists recognize that the "choice of an occupation is not a single decision" but may extend over fifty years and beyond—particularly for women, but in a number of areas (the military and government service, for example) for men. He suggests that the pool of middle-aged persons who might be redirected toward fields of shortage is larger than it is generally thought to be. If more such career redirections are to occur, however, the author suggests that universities will have to be somewhat more flexible than they have been, even though the study found that many urban universities did respond to the demands of middle-aged students, particularly through the provision of opportunities for part-time study.

A number of shortcomings with respect to internal validity limit the generalization of Hiestand's results. They have to do with the sample survey, especially the smallness of the sample, the restriction to only four cities, and the nonrandom selection of over half of the sample. A finding that could be considered by a project for mid-life career redirection (and is not based on Hiestand's sample survey) is that the middle-aged student prefers to begin with part-time study and move into full-time study after he or she feels assured of meeting academic requirements and can arrange personal affairs satisfactorily.

New Careers Program. We next examine a university program to retrain mature adults, namely, the New Careers Program at Columbia University for thirty-five "successful businessmen and women" who wished to begin a second career in nonprofit, service-oriented professions (Entine, 1967). The program's stated goals were to help alleviate then-existing shortages of trained personnel in areas of public service such as social work, library administration, and teaching, and to help qualified people find new careers that promised enhanced personal satisfaction and social usefulness. Program participants on both the graduate and undergraduate college level were required to attend school full-time; in addition to regular coursework, they received counseling, guidance, and tuition assistance from sources unavailable to regular university students. At least twenty participants in this program did make career changes.

Unfortunately, because no comprehensive assessment of this program exists in print, we cannot determine which variables were instrumental in effecting the career changes that did occur. In his description of the New Careers Program, the program director, Dr. Alan Entine, asserts that several barriers prevent mature persons from facilitating career changes: insufficient self-knowledge, insufficient knowledge about alternative occupations, lack of training and of funds to gain such training, and the placement process in many institutions, which is more limited and more narrowly selective for middle-aged adults than for younger persons (Entine, 1967). But he presents no evaluation of the relative importance of these barriers or the relative impact of the New Careers Program on these barriers. Dr. Entine is launching another program for mid-life career-changers in the fall of 1974 (at the

State University of New York at Stony Brook) which will emphasize counseling services for its participants (Boronson, 1974, p. 24; Entine, 1974).

CONCLUSION

While people aged 35 and over have used the resources of colleges and universities to effect career changes, the items reviewed here that describe their endeavors are uniformly weak with respect to their internal validity. This shortcoming holds true whether the items describe people who are independently undertaking career changes or are members of programs designed for career-changers. Hence the results cannot be generalized to other such programs—that is, the items also lack external validity. We conclude that the definitive study of career-changers on university or college campuses is still to be written.

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Part III
SYNTHESIS AND IMPLICATIONS FOR POLICY

Chapter 10

SUMMARY OF LESSONS FROM THE LITERATURE

by Anthony Pascal

This chapter sums up what the literature has to say concerning the problems and prospects of mid-life career redirection programs.

JOB DISCONTENT AS A FACTOR IN REDIRECTION

Chapter 1 presented a descriptive review of the demographic, socioeconomic, and geographic characteristics of the probable target group for a major mid-life career redirection program. Chapter 2 took up the specific facet of job discontent and its influence on people's propensity or disinclination to consider changing careers.

Here we encounter a sad irony: the most promising candidates for redirection programs are the least likely to need them and thus to embrace the opportunity. Those are the people who have held challenging jobs that call for a good deal of personal forcefulness, and who retain their imagination and initiative as they age. In consequence, they are the most adaptable to radical career redirection. The reverse is true for workers engaged in routinized jobs, especially jobs that entail dealing with data or materials instead of other people. Of all workers, they are likely to be the most bored, alienated, and dissatisfied with work, to yearn the most deeply for a change—or to be catapulted into change willy-nilly through the loss of jobs. At first glance, such workers appear to be prime candidates for redirection, but actually they dread change more than any other group, the moreso if they suffer the additional disadvantage of limited education. They are the least likely to enter novel situations voluntarily, especially ones that require new learning. And even if the foregoing obstacles were absent, age suffers yet another hazard: arbitrary discrimination, undeniably present in our society, may impel one employer to dismiss the aging worker and another to refuse to hire him.

In general, the literature in this category is the product of competent survey research and is therefore internally valid for the most part. Its major failings are the frequent absence of control groups and the disinclination to use multivariate techniques to isolate the effects of explanatory variables. There does not seem to be appreciable variation in results across studies.

TRAINING METHODS FOR OLDER WORKERS

Chapter 3 presents evidence on the effect of age on the ability to learn, at least for blue-collar workers taught by standard methods. Adults over 40 have somewhat more difficulty than younger people in learning new tasks. Their difficulty is all the greater if they:

- Have a low level of educational attainment;
- Have been performing routine tasks;
- Cannot see the practical relevance of what they are asked to learn;
- Are in a situation marked by frequent distraction;
- Already have a good deal of experience in the particular field, which may well be valuable but also may demand a great deal of unlearning;
- Have to rely on rote memorization as a learning technique.

Our survey suggests further useful guidelines in establishing retraining schemes for older workers. Many older trainees prefer to be separated from younger students. Others benefit more from Socratic teaching methods—learning by discovering—than from memorization. Special care must be taken to avoid erroneous learning, because older people have more difficulty in unlearning. Media-switching also seems to inhibit older people's learning; for that reason a factory floor simulation, for example, is superior to a film in showing how to operate a machine.

Studies of aging can also tell us about the kinds of new careers that older workers may be trained for. Carryover of experience is of course important. The magnitude of career change depends on the amount of status-loss and the amount of new training entailed—both of which, especially status-loss, are likely to increase with age. When we combine those factors with what we know about sources of work dissatisfaction among older workers, it becomes natural to look toward people-oriented jobs as new careers (monitoring, negotiating, supervising, serving, helping). Age is commonly an advantage in such jobs.

Finally, the literature includes evaluations of programs specifically charged with the training of older workers. The picture we receive is discouraging. Most programs to date have been so faulty in operational planning, to say nothing of experimental design, that no useful lessons are to be had other than corroboration of our notions about some obvious pitfalls. One striking failure was the absence of vocational counseling services. Another was a tendency to concentrate on entry-level jobs with opportunities for advancement; but that situation implies a kind of on-the-job training investment that has interested neither the older worker nor the employer, because of the short pay-back period.

The quality of the literature on the age factor is uneven. Much of it is merely descriptive, some is based on controlled experiment, and some is based on systematic observation of real cases. The latter two types tend to meet the criterion of internal validity, but applicability of findings is limited by the specialness of the experimental situation, whether laboratory or "natural." None of this literature, then, contains unambiguous foundations for policymaking.

CAREER OPPORTUNITIES FOR REDIRECTORS

In beginning this project we assumed—naively, as it turned out—that people who want to make a change and are not already strongly committed to a particular new calling have ready access to information on the likely future demand for various occupations. A person thinking about preparing for career X, say, presumably could feel confident that job openings in X would be plentiful for the foreseeable future. We vaguely assumed the existence of something like a career counseling center that could tell Mrs. Brown that the Denver labor market would have many openings for jobs as commercial illustrators next year, but that an over-supply would have built up by the 1980s. Similarly, Mr. Green could be informed that medium-sized cities in the Southeast would be short of medical technicians, though not X-ray specialists, for many years. Such a center, capable of making detailed forecasts, could perform a further invaluable service through its ability to predict excess supply in a particular occupation: people with a precarious hold on their jobs in that occupation could be alerted to the advisability of prompt career-change planning.

Alas, all such notions amounted to no more than a pleasant fantasy. The state of the art in manpower forecasting is still far short of the point where it can make such detailed predictions. The following are the essential problems (see Chapter 4):

- *The forecasts are made at very high levels of aggregation* across occupations, and thus severely inhibit individual planning. Numbers are likely to be stated in terms of such broad categories as "professions," or at best, "health professions." People usually undertake training for much more narrowly specified occupations.
- *Manpower requirement forecasts typically estimate only the gross number of openings in an occupation.* Seldom is a figure calculated that is the net of the number of people already preparing to enter the field. That is true even for professions requiring long periods of formal schooling, and for which the numbers of future entrants are therefore potentially ascertainable. It is virtually impossible to derive net figures in fields where preparation is much shorter or much less identifiable.
- *Forecasts almost never furnish geographic disaggregation,* but most people contemplating a new career are strongly interested in where they may effectively follow it. To know that auto mechanics will be in short supply nationally is meager reassurance to the changer who wants to stay in his home town or any other specific place.
- *Forecasts are not always accurate,* even in fields where preparation is standardized and mandatory and in which prediction is therefore easiest (schoolteachers, physicians). The situation is unlikely to improve, since systematic follow-ups are almost never made to ascertain forecast accuracy.
- Even if they are free from the foregoing defects, *forecasts almost invariably assume that new entrants will be young* and consequently will accept jobs at the bottom of the ladder; yet seniority rules may make it difficult for older workers to enter a field laterally.
- *Forecasts are based on long-term trends,* not on the probability of sudden dislocations. The problem bulks larger for people who are forced to switch careers because they are found to be redundant or obsolete.

Dougherty (1972) provides evidence on the foregoing points. He also concludes that the demand approach to manpower forecasting is less than useful because of the assumption of rigid segmentation in the labor market—that the possibilities for substitution among different types of labor are nil. Analyzing census data from 19 countries, he concludes that "... the manpower requirements approach gives a misleadingly rigid impression of the demand for labor, and hence of the derived demand on the educational system."

The critiques of the forecasting literature have been largely conceptual and theoretical, as we point out above. Their major empirical failing has to do not with how they collect and interpret the data they have, but with the data they neglect to collect, i.e., validation figures that could enhance the accuracy of forecasts. Mainly, though, forecasts as currently made are simply not suited to planning redirection programs in which specific people must be matched with specific jobs.

Where does that leave us with respect to the structuring of a mid-life redirection program? It tells us that it is currently possible to provide little in the way of warning to potential push-outs and little in the way of guidance to prospective voluntary redirectors. It probably implies, as Dougharty argues, that redirection planning ought to start from the experience, interests, and aptitudes of the potential redirector and that it is misplaced confidence to try to rely on the "objective" evidence of labor market forecasts. It also suggests that attempts should be made to establish direct links between those preparing to redirect themselves and those who may possibly hire them. Of course, the feasibility of this subjective, personalized approach depends heavily on the scale of the redirection programs. It will work as long as relatively few people "graduate" from them. Those few can probably be permitted to follow their own inclinations. It would be a different matter if, say, there were a significant trend for upper-middle-class college-graduate housewives to enroll in law school, and the trend received substantial public encouragement and subsidy. When an unusual number of people prepare to enter an already crowded profession whose traditional entry channels are also expanding, the result is likely to be considerable disappointment for many of the nontraditional applicants. A public program that had such an outcome would deserve and receive severe criticism. Scale, then, appears critical.

Some solutions to the problem of poor forecasts are apparent. First, as we have seen, the number of voluntary career redirectors in middle years is likely to be small, implying that program scale will be small. The number requiring post-training placement in any individual labor market would be even smaller, of course. For those not requiring an extensive training period prior to shifting, the necessity of accurate skill demand forecasts is clearly diminished; in theory, the shift will occur only when and if an opening in the new occupation eventuates. Counselors for those shifters not requiring vocational preparation could be provided with standard data on job vacancies, which are much more reliable and accessible than data on future excess demand by skill. Should redirection programs in time to come reach a scale where significant numbers of people might be entering the applicant pool for specific occupations, resources would have to be devoted to the refinement of shortage forecasting models so as to avoid disappointed redirectors on the one hand and displacement of the existing workforce for that occupation on the other.

Our next step was to search out analytical discussions of programs that mid-life career redirectors could use or that convey messages about how to design redirection programs. Except for the evaluations of government-sponsored manpower training schemes, we found the literature to be very limited in both quantity and quality. Some useful if tentative lessons are derivable, however.

FOREIGN PROGRAMS

Several industrial countries, such as France and West Germany, have universal public schemes expressly designed for mid-life vocational change and upgrading. Others, such as Great Britain and Sweden, have active manpower programs that seek to provide retraining to all who require it, though the concentration is on the unemployed (rather than the people we would define as voluntary redirectors). None of the West European redirection programs have been properly evaluated using data that measure costs and benefits, as far as we were able to tell. We therefore have had to draw our conclusions from them on the basis of purely verbal descriptions at best or somewhat untrustworthy avowals at worst.

It appears from our review that the granting of continuing education opportunities as a right is becoming more common. Eligibility criteria, however, often fail to preserve places for disadvantaged workers as well as voluntary redirectors or to screen out applicants whose interest is primarily recreational, not vocational. In Canada, the one country for which we were able to identify a systematic evaluation, the program appears to work poorly for redirectors, probably in an absolute sense and particularly relative to programs for career upgraders. We therefore devoted the major part of our literature review on specific programs to experience within the United States.

U.S. GOVERNMENT SPONSORED PROGRAMS

Unfortunately, from our perspective, most government sponsored programs enroll the unemployed—involuntary career-changers, in our terminology—not people interested in redirection because they are dissatisfied with their jobs or feel a strong pull into a new field. The two groups may well have different characteristics.

On the whole, the literature suggests that on-the-job training (OJT) and direct placement without training should be thoroughly considered before resorting to institutional training, particularly for people in mid-life. For one thing, evaluation suggests that OJT for people over 45 may be protracted enough as it is; education and classroom training are by no means always necessary, and therefore may do little more than prolong the process and add to the cost (while the client ages still further). Counseling and direct placement are often sufficient for the purpose, and may be performed by nonprofessionals or even volunteers. A surprisingly strong, though seldom made, case for counseling emerges from the literature. The analysis of older workers' projects under the Manpower Development and Training Act, and the evidence from vocational rehabilitation projects, support that contention.

To be successful, however, OJT must not be hobbled by administrative red tape or nullified by employer discrimination against the older worker. On the other hand, the employer should not be trapped into the role of unwilling philanthropist. Since there has to be some payoff to the employer, consideration should be given to subsidizing OJT when the cost is substantial and the applicant is over 45, so long as the total cost can be kept below the cost of institutional training.

In general, government manpower schemes appeared to be successful even in the restricted sense of comparisons between economic costs and benefits. (Remember that the career redirection programs we envisage are intended to deal with work alienation and frustration in the middle years, not merely to augment the Gross National Product, which is the base of the standard benefit/cost or rate-of-return calculation.) More specifically, the program evaluations revealed that:

- The rate of return for women appeared to be higher than that for men (partly a result of the lower forgone earnings for women during training);

- Short intensive programs seem to have higher relative payoffs than those of longer more extensive schemes;
- Strong job development and job placement components seem to have been a critical concomitant to training in successful programs;
- Programs that concentrate on the preparation of paraprofessionals, usually raising clients to new skill levels, particularly for health-related fields (which are "shortage" fields) looked especially promising;
- Programs stressing on-the-job training, as opposed to traditional classroom instruction, appear superior;
- The use of redundant facilities (e.g., space and faculty at college and university campuses which are facing declining enrollments over time) can substantially reduce the cost of programs for which classroom instruction *does* look promising.
- Typical cost for a 634-hour course spread over 6 months, based on the experience of programs reviewed, would be about $4000 (1972 dollars). This includes estimates of forgone earnings and direct costs of providing training.

EMPLOYER-SPONSORED PROGRAMS

Employer training programs are not well suited to career redirection because they are designed to upgrade the worker's skills to suit the employer's special interest, and the employer is unlikely to be enthusiastic about a career change if the employee thereupon leaves the firm. The principal forms of assistance uncovered in this literature that are likely to be useful to the career changer are counseling and referral to a target employer; and firms with substantial employee training programs probably make good target employers for redirectors. The use of summer and cooperative education programs, offered by some firms to their own employees, seems to be a possibility as a method of training career redirectors, but would probably require public subsidy if it were to be extended.

UNION-SPONSORED PROGRAMS

Automation became a familiar issue in union-management negotiations during the late 1950s and gave raise to a wide variety of ameliorative measures during the 1960s. During that time, the number of provisions for retraining programs in collective bargaining agreements grew to its current level; about one-fifth of all collective bargaining agreements covering one thousand or more employees had such provisions.

In reviewing the literature, we found that union-sponsored retraining programs are generally effective in enabling union workers to upgrade their skills, and are somewhat effective in enabling them to become efficiently reemployed if they become technologically displaced. The following features were identified as relatively effective in enabling displaced or about-to-be displaced workers to become reemployed:

- Information services to cultivate a "sense of mobility" among these workers by informing them about their best job opportunities and how to capitalize on them;
- Use of the federal-state employment service where its activities are organized on a "special project" basis to aid these workers;
- Adequate training facilities for imparting the technicalities of alternative occupations, whether or not such facilities are union-controlled.

SPECIAL CAREER REDIRECTION EFFORTS

Aerospace Workers

In the late 1960s and early 1970s, reductions in governmental aerospace procurement resulted in substantial layoffs of skilled blue-collar and white-collar employees. Unemployment among engineers went from 0.3 percent in 1967 to 3.0 percent in 1971 (Allen, 1972). About 60,000 engineers were then out of work (Kinn, 1973). One response was the establishment of programs to refit those workers with knowledge and skills necessary to enter new lines of work. Many of the programs were conducted under the auspices of the Technology Mobilization and Reemployment Program, U.S. Department of Labor, which included counseling and information, relocation assistance, and retraining. The Labor Department claims that 25,000 persons had been moved into new jobs through these programs by the end of 1972. The experience therefore offers an interesting opportunity to appraise the success of schemes for helping involuntary career changers, many of whom fall into the mid-life years. Chapter 9 derived the following lessons from this experience:

- With few exceptions, the programs were mediocre in overall performance.
- The quality of the training itself was low on the average. It was sometimes assumed that the clients required little in the way of new technical skills because aerospace industry skills were directly transferable to other industries and to public sector projects.
- There was insufficient attention to imparting labor market knowledge and job-searching skills. Private employment agencies chose not to provide these services because they were unable to capture the private returns to these activities, and public employment agencies generally did not provide them; public agencies traditionally serve a less-educated clientele with qualitatively different job-search requirements from those of unemployed aerospace professionals.
- Employers in target fields were particularly resistant to hiring senior workers whom they viewed as technically obsolete, inflexible as to salary and job conditions, and undependable in the sense that they were deemed likely to try to return to aerospace should the market pick up.
- Those programs that were judged successful tended to devote considerable effort to acquainting the job hunter with the reality of his prospects and to giving him an accurate understanding of what he might expect in terms of pay, status, and location in his alternative opportunities.
- Successful programs also tended to devote considerable effort to job finding

and job placement for their clients; they did not concentrate solely on imparting new technical skills.

Adult Education

Over the years, American colleges and universities have developed a vast system of part-time and continuing education classes for adults. Though most provide educational and vocational counseling as an adjunct, the focus is more on the earning of credits toward standard degrees than on direct vocational preparation. The colleges and universities do not collect information on adult students' motives, let alone how they fare in job markets upon completing their courses. Because this kind of education leads only to slow and evolutionary changes in careers, and because many adult students do not have specific career interests, the literature on part-time and continuing education is discussed here only briefly.

Perhaps the most useful conclusion to be drawn from a survey of this literature is a general agreement on the necessity of a certain minimum of ancillary services if participation in adult education is to be increased. These include counseling, limited course loads, flexible schedules, liberal provisions for transfer of credits, credits for life experiences, neighborhood classes, child care facilities, correspondence study, and job placement assistance.

Follow-up job information is available on a few adult redirection programs conducted on college and university campuses. Students who have stayed the course tend to show high rates of success where success is defined as finding and holding a job in a field related to the training undertaken. However, the very limited number of even superficial evaluations means that no appraisal is possible of what works and what does not.

Chapter 11

RECOMMENDATIONS FOR POLICYMAKERS

by Anthony Pascal

This chapter discusses what we believe to be the largest single gap in the research we have reviewed: the absence of data on the efficacy of actual mid-life redirection programs. We suggest a series of pilot programs designed to generate such data; our recommendations are thus for additional research in the form of new initiatives through experimental programs.

ADEQUACY OF EXISTING PROGRAMS

Our review of the literature clearly indicates that facilities now exist to assist people who wish to pursue mid-life redirection. Programs sponsored by government, and to a lesser extent by employers and unions, may be pieced together to secure information and counselling, to receive education and training, to find new employment, and, to a much lesser extent, to obtain financial assistance while making a transition to a new calling. Table 18 provides information on a number of existing public programs. In it we see that the referral and counselling programs for welfare recipients (the Work Incentive Program) and for the unemployed bulk largest in numbers of participants. On-the-job training and work-experience schemes such as JOBS (Job Opportunities in the Business Sector), MDTA, PSC (Public Service Careers), and Operation Mainstream (a kind of refurbished WPA) rank next in scale. Institutional (i.e., classroom) training programs conducted under the Manpower Development and Training Act or the Concentrated Employment Program constitute the third category. Though data on post-program wages are scant and probably not wholly trustworthy, they suggest that existing schemes do not lead to very rewarding jobs.

There are, of course, many state, local, and university-sponsored schemes a career redirector could use, but about which we could discover no comprehensive information. Advice and training are also available from proprietary organizations —employment agencies, "executive counselors," trade schools—for a fee.

A review of available programs reveals a number of failings with respect to people in their middle years:

1. Coverage is extremely spotty; a given individual in most locations will find difficulty in putting together the coherent package of services (diagnosis, counselling, training, placement, financial assistance) that he or she may need.
2. Certain categories of people seem to be slighted, most notably housewives and the already employed (i.e., voluntary redirectors).
3. In general, the financial assistance available to family heads in their middle years is so limited that they cannot change careers without reducing their living standards inordinately.

Table 18

SELECTED FEDERAL TRAINING PROGRAMS AVAILABLE FOR MID-LIFE CAREER REDIRECTORS, FY 1972

Program	New Enrollments	Employed Completers	Average Hourly Earnings for Completers
Institutional training			
MDTA	151,000	81,500	$2.49
CEP[a]	69,000	39,300	$2.24
OJT and work experience			
JOBS	234,000	44,200	(b)
MDTA-OJT		51,000	$3.16
Public Service Careers	63,000	26,200	(b)
Operation Mainstream	31,000	(b)	(b)
Referral and counseling			
Work Incentive Program	121,000	33,300	$2.46
Employment Service	(c)	3,800,000[d]	(b)
Technology Mobilization and Reemployment Program[e]	(b)	25,500	(b)

SOURCE: *Manpower Report of the President* (1973), Government Printing Office, Washington, D.C.

[a] Multiservice program including institutional training.

[b] Not provided in source.

[c] Not applicable.

[d] Nonfarm placements only.

[e] Subset of state employment service placements and funding.

4. The nonexistence of an organized public program for mid-life career redirection appears to us and, we believe, to potential redirectors as a sign that there is no public concern for this problem or commitment to its alleviation. We belive that reversal of this neglect may have a salutary effect on people's views about the long-term fairness of the "system" and thereby reduce alienation among a vital segment of our population.

We therefore urge that new public initiatives be devoted to the reorganization, if not the expansion, of resources in this field.

EXPERIMENTAL PROGRAM INITIATIVES

The question then arises of how much public intervention is appropriate. We have not been able to answer that question with the knowledge we have assembled in reviewing the relevant literature. We therefore propose a series of experimental pilot programs, varying in the extent and intensity of services they offer. For each, careful and systematic collection of data will permit an assessment of costs and consequences and enable a decision on proper scale and structure in various contingencies.

Some features will be common to all of the experimental variations. We discuss these first.

Target Groups and Eligibility

We suggest adoption of the more inclusive definition of mid-life in terms of age: the years from 30 to 55. People at the lower end of that range account for a disproportionately high percentage of voluntary job changers, according to the literature surveyed. For people 50 to 55 years old, involuntary job changes can be a severe problem that may require a good deal of outside help to resolve.

We do not believe that eligibility for the mid-life career redirection program should depend on socioeconomic status. That is, program facilities should not be restricted to the needy or disadvantaged. As we discuss more fully below, however, cost-sharing between the public agency and the client should depend on the client's ability to pay judged both by pre-redirection status and by economic condition after redirection.

What sorts of people are likely to apply to redirection programs? The Educational Testing Service's survey of adult learners has much to tell us on this score; for details, we refer the reader to Chapter 1. In general we can conclude that the programs should be oriented toward the intellectual level of the *high school graduate in lower white-collar occupations.* From all evidence, they appear to be a modal group among those strongly involved or interested in preparation for job change. Whatever target age group is defined, applicants at the lower end of the age range will predominate. Because people with lower educational attainments and lower occupational status are more dissatisfied, blacks will be disproportionately represented in any clientele. Women will be represented about equally with men; if redirection programs were to be specially adapted for housewives, however, the balance could shift.

Structuring the Mid-life Career Redirection Programs: Location, Time, Level

More important than these distinctions for program planning purposes are the characteristics that describe where the potential applicants live (and thus where the programs should be sited); whether or not they tend to be full-time paid workers (and thus at what times of the day or week services must be offered); and their educational attainments (and thus the proper level for the contents of counselling or instruction). Those data are discussed in Chapter 1. In addition, from the data in Table 19, we see that people with less than a high school education will make up 43 percent of the clientele and people with more than a high school education, only 20 percent. Locational data by type of residence—city, suburb, rural—in the nine census districts are available but have not been reproduced because the small size of the sample reduces the reliability of such fine disaggregation. We can ascertain that as many as 28 percent of those highly interested in, or engaged in, learning would seem to be available for instruction during normal working hours (housewives plus unemployed plus part-time employed), leaving 72 percent who would need to rely on nights, weekends, or home study. Table 20 reports the actual preferences of respond-

Table 19

POTENTIAL CLIENTELE FOR REDIRECTION PROGRAM BY EDUCATION LEVEL AND DEGREE OF INTEREST

(In thousands)

	Level of Education					
	Less Than High School		High School Diploma Only		More Than High School	
Degree of Interest	No.	%	No.	%	No.	%
Moderate	2134	96	108	6	64	6
High	--	--	1546	80	656	66
Involved in learning	84	4	280	14	279	28
Total	2218		1934		999	

SOURCE: Carp, 1974.

Table 20

PREFERRED TIMES AND TOTAL HOURS OF ATTENDANCE AT LEARNING ACTIVITIES BY POTENTIAL CLIENTELE FOR REDIRECTION PROGRAM

	Degree of Interest					
	Moderate Interest		High Interest		Involved in Learning	
Time	No.	%	No.	%	No.	%
During normal working hours						
Less than 8 hr/wk	261	5	70	2	309	8
About 8 hr/wk	1493	27	465	12	554	14
More than 8 hr/wk	446	8	463	12	295	8
Total	2200	40	998	26	1158	30
Outside normal working hours						
Less than 8 hr/wk	2255	40	2291	60	1848	48
About 8 hr/wk	56	1	66	2	55	1
More than 8 hr/wk	925	16	159	4	487	13
Total	3236	57	2516	66	2390	62
Summertime	156	3	318	8	307	8
Total, all times	5592	100	3832	100	3855	100

SOURCE: Carp, 1974.

ents for learning times and more or less confirms these figures. Not surprisingly, people with free time during the day also seem to have more total time available for job-change learning.

Modes, Sites, Duration, and Frequency

We then grouped the potential mid-life career changers by their answers to questions on preferred modes of learning and kind of site they preferred. The answers are given in Table 21. Here we learn that lectures seem to be preferred by those most interested and that OJT modes appeal more to the interested than to the actually engaged. Part of the explanation may be that actual learners are somewhat higher in socioeconomic status than would-be learners, and tend to pursue more academic preparation for job change. All three groups, by interest level, express interest in individual study. The moderately interested seem to prefer the less-threatening learning sites—public schools, trade schools, community groups, the home—while the more motivated would seem to feel more comfortable with institutions of higher education (including two- and four-year colleges and universities). All three express an interest in employment-site learning.

Table 21

METHODS AND SITES OF LEARNING PREFERRED BY POTENTIAL CLIENTELE FOR REDIRECTION PROGRAMS, BY DEGREE OF INTEREST

(In thousands)

Item	Degree of Interest					
	Moderate Interest		High Interest		Involved in Learning	
	No.	%	No.	%	No.	%
Methods Preferred						
Lectures	1188	21	1432	37	994	26
Group study, seminars	1405	25	465	12	1005	27
OJT	2145	38	1464	37	1133	29
Individual study	841	15	551	15	595	17
Sites Preferred						
Public school	983	18	759	19	514	13
Institution of higher education	617	11	1216	32	1034	26
Private vocational school	797	14	344	9	390	10
Job site	865	15	540	14	631	16
Community site	1171	21	552	14	599	16
Government agency	84	2	0	0	114	3
Home	1112	20	523	13	691	17

SOURCE: Carp, 1974.
NOTE: Percentages do not add to 100 owing to rounding error.

Lowering the Barriers to Participation

We next divided our group—i.e., mid-lifers with interest in job-change learning—on the basis of what they perceived to be the major barriers to additional learning activity on their part, as indicated in Table 22. We can translate these statements about barriers into guidelines for program design on the assumption that lowering the barriers will make the program accessible. The following would then become design guides:

- Over half of even the highly motivated cite cost as an important barrier. A method of subsidizing or at least delaying fees thus seems critical.
- The largest group picked time barriers. Some part of this obstacle would probably wither away if income maintenance could be arranged, as most people probably find that work—paid or unpaid—is the major competitor for their learning time. Still, courses outside of the normal working hours, OJT, and home study seem to be good ideas.
- Administrative barriers seem to be equally important for all three groups. The barriers stem partly from difficulties in gathering information about requirements and opportunities, and partly from acknowledged rigidities in institutions. We consider both in our recommendations below for experimental pilot programs.

Table 22

PERCEIVED BARRIERS TO FURTHER LEARNING BY POTENTIAL CLIENTELE FOR REDIRECTION PROGRAM, BY DEGREE OF INTEREST

(In percent of clientele at each interest level who perceived some barrier)

Barrier Perceived	Degree of Interest		
	Moderate Interest	High Interest	Involved in Learning
Too costly	57	50	51
Insufficient time	63	89	78
Administrative obstacles	49	46	49
Social constraints	22	37	42
Low motivation	45	28	35

SOURCE: Carp, 1974.

NOTE: The following are examples of responses falling into the various barrier categories. *Cost:* includes child care and transportation as well as materials and tuition. *Time:* "Too much time required to complete a program." "Cannot go to school full time." *Administrative:* "Attendance requirements too strict." "Too much red tape to enroll." "Courses (times) I want not available." *Social:* "Child and home responsibilities conflict." "Family, friends object." "Hesitate to seem too ambitious." *Motivation:* "Unsure," "too old," "too tired," "unconfident."

- Social constraints, surprisingly, loom larger for the more motivated groups. Perhaps this is because they have given more serious thought to the obstacles impeding them from more job-change-oriented preparation. Subsidy is one solution to the problem. It would provide the wherewithal to deal with competing child-care and home-care responsibilities. For those wanting to learn but fearing to appear too "ambitious," perhaps a promotional campaign can allay insecurities. A similar approach might overcome the problem of low motivation, which is substantial even among those judged highly interested and those actually engaged in learning.

Experimental Pilot Programs

In spite of the information contained in the literature and in our analysis of the ETS survey data, we still know little about many aspects of designing and conducting an effective career redirection program. We are convinced that the only way to get this information is to experiment. We have therefore designed a series of pilot programs of escalating intensity and scale. If each of the variants were to be tried out in a different city, we would need a method for comparing them. Thus, it would be necessary to collect certain basic information on each, with the end in mind of presenting data to policymakers on the nature and performance of the variants. The data to be collected include:

- *Target group:* How many are served? What are their characteristics?
- *Program costs:* What sorts of resources are required to mount the program? From what alternative uses are they withdrawn? What is their value? Are any of the resources in short supply, thus implying bottlenecks which may result from expansion?
- *Program Consequences:* What is the level of client satisfaction with the services rendered? How many clients effected career changes? With what impact in terms of pay? Status? Security? Job satisfaction? How many clients decided, after exploration, to stick with their original careers? How satisfied were they to do so?
- Measures of consequences, of course, should be based on comparisons with control groups—similar people who did not receive career redirection services.

Following the descriptions of the pilot program variants, we discuss some issues common to all of them.

Variant One: Counselling and Referral Centers. The simplest and most basic intervention would consist merely of a central site for guidance and information dissemination to mid-lifers requiring or interested in career redirection. The Centers would be staffed by vocational counsellors experienced in dealing with the employment problems of the mature client, whether or not the client's previous work had been remunerative. The counsellors would have up-to-date information on where the client could go for testing and diagnosis of vocational problems and aptitudes. They would also have knowledge about opportunities for institutional and on-the-job training, and about job opportunities that might serve as experimental ventures for the uncertain redirector.

A likely location for the Centers would be the premises of the state employment service office, but the Centers should always be physically distinct enough to preserve their identity. The employment service has the image of serving only the unemployed and, in fact, most of current resources are so devoted. If no visible distinction is made, voluntary redirectors may shy away from the use of unemployment service facilities.

An important function would be to keep track of clients even after they have used the counselling and referral services. In this way the counsellors could continually upgrade the quality of their work by comparing their advice and recommendations with the outcomes for their clients.

Fees for these services should be collected from clients on the basis of ability to pay. Income-scaled fees are currently collected in other social service programs, such as day care. Since fees necessary to cover costs of the services would no doubt be moderate, they can be assessed on pre-redirection income without much danger of inequity toward those whose eventual income dips substantially.

Variant Two: Provision of Vocational and Diagnostic Services. In the second variant, we add provision of testing and diagnosis to the services rendered by the redirection Center. We make the suggestion in the belief that adequate sources of these kinds of services are going to be difficult to find in all but the largest cities. Even where the services do exist, they may be offered by rather dubious "executive job search counsellors," many of whom offer little value for money.

It may be, however, that the state of the art in vocational aptitude testing is not sufficient to justify any major effort in this direction. If so it may be advisable to invest first in further research toward improving the accuracy of such tests.

Again, in both the experimental and subsequent operational phases, the Centers should be directed to collect data on outcomes for comparison with services rendered. It would also be advisable to collect the same data on at least a sample of the clients who do not avail themselves of the more intensive services, but use the Center for merely referral purposes. They can serve, eventually, as a control group against which to test the efficacy of the treatments supplied by the Center.

Variant Three: Support of Training Activities for New Careers. Here and in the ensuing discussion of the organization and financing of mid-career training, we should recognize that we are discussing schemes that could promote skill upgrading as well as they do career switching.

In this version, we add to the services provided in the other variants a feature similar to the educational benefits accorded to veterans: coverage of the cost of training for the new career. (We discuss below the issue of whether the grants should cover only tuition, fees, books, and materials, or should also cover costs of maintaining the learner and, if necessary, his family.) Like the GI Bill, the system would operate on the voucher principle. That is, the Center itself would not offer training courses, but would simply compensate the redirector for expenses incurred in preparing for the new career.

Clearly, such a system would require policing. It is important that training grants be used for legitimate job-change activities. It therefore would be necessary to insure that (1) the redirector is, in fact, using the service and not merely converting the "voucher" to cash or using it for avocational purposes, and (2) that the provider of the preparation service (who, in this case, ultimately receives the cash value of the voucher) is not defrauding the redirector with shoddy service. Such policing is not simple but can be done if sufficient resources are allocated to it.

The use of the grants to pursue redirection activities would require the concurrence of the counsellor with whom the redirector worked. Obviously, however, it also would be necessary to build in some kind of appeals mechanism to handle cases of irreconcilable differences between counsellor and client. In this way a coherent program of activities—e.g., classroom instruction, home study, OJT—could be planned, undertaken, and eventually appraised for adequacy in meeting the redirector's objectives.

Community and private organizations offer a wealth of services of possible interest to the redirector, as we have seen. The voucher approach exempts the Center from trying to duplicate them, and enables it to finance the redirector's securing the services. The approach has some close similarities to the Universal Worker Self Renewal Plan advocated in Work in America (1972, pp. 105-107).

Variant Four: Provision of Training Services for New Careers. In the fourth variant, the Center itself offers instruction to clients. (See Chapter 3 for details on effective training approaches for older workers.) This approach makes sense only where adequate preparation opportunities do not exist under other auspices, such as in remote rural areas, or when massive displacement (as in Seattle in 1971) generates so great a volume of would-be redirectors as to exhaust the capacity of existing vocational training organizations.

The greatest problem here is that the Center will likely find it impossible to offer all the kinds of vocational instruction its clientele may want. People often yearn to enter rather exotic second careers—running an organic plant nursery, opera singing, gourmet cookery, court reporting.

Still, it is conceivable that the demand for more mundane courses—say, in office skills or retail proprietorship—may sometimes be widespread, but the instruction available outside the Center inferior or too costly, in which case it will make sense for the Center itself to offer the service. It is likely to be more cost-effective, however, to arrange for and finance temporary relocation of the redirector to a larger place where the required vocational service is offered.

It is even more interesting to envisage the possibility of a nationwide network of Second Chance Centers that could finance the production of high-quality instructional packages meant for home use. Correspondence materials, video and audio cassettes, cable or UHF TV broadcasts could deliver instruction to the homes of clients. The Centers, themselves, could periodically assemble home-study clients to administer tests, gauge progress, offer advice, and award credentials.

It could turn out that, in certain subjects that require face-to-face teaching, the manpower training agencies, community colleges, universities, trade schools, and the like are not, in general or in some special fields, offering preparation services adequate for the needs of Second Chancers. The network of Centers might then establish instruction facilities for certain clusters of subjects at various sites around the country to which their clients could be sent. Ordinarily, though, it is likely that the combination of vouchers, relocation assistance, and development of home study approaches will suffice. This fourth variant, then, is offered mostly as a logical corollary to others; if sufficient funds for experiment are available, it might be tried in a remote rural area or in a city heavily impacted with older unemployed workers.

Financial Considerations: Coverage

For Variants Three and Four we must decide whether the program of financial assistance is meant to cover only the direct costs of preparation, such as fees, tuition, books, and materials, or to cover the maintenance of the redirector and his family as well. That is an important issue, and not only because coverage has a profound influence on cost. Koleda (1973) calculates that if one million workers (about 1 percent of the labor force) were granted paid leave each year at levels commensurate with their earnings in prior years, the total cost would be about $6 billion, including employers' costs in continuing fringe benefits and seniority privileges to workers on leave. In contrast, for a direct-cost-only program, even if all workers spent their year on leave as full-time students on a university campus, the costs would only be about one half as high for an equivalent million workers. Clearly, not all of them would choose the university option, as Table 21 confirms. The budget requirements, then, would be correspondingly lower, even adding in the cost of resources not covered by student fees at institutions such as community colleges. Striner (1972) estimates the average direct cost of retraining as about $2000 per person.

But a direct-cost-only program would have other consequences; for one, it would influence the characteristics of the clientele. It would favor people with lighter financial responsibilities, such as housewives with husbands present, workers without children at home, those with pensions such as retired military personnel and policemen, and those who could most easily combine further education with the continuation of paid employment. The social question that needs answering is whether such people deserve help for a second chance more than do those who would be discouraged by a redirection program that subsidized direct costs only.

Financial Considerations: Sources of Funds

"Who pays?" is always an important question, but is often ignored in planning public programs. It is particularly important with respect to mid-life redirection programs as compared, say, with traditional manpower schemes or compensatory education projects, or public housing subsidies, because by intention those second-chance programs are not redistributive in terms of benefits.

In this particular sense the framework for evaluation is similar to the one appropriately used to appraise ordinary higher education schemes in which benefits often go predominantly to persons with incomes well above the median (or who come from families with incomes). There are two kinds of similarities. First, the benefit that justifies the public subsidy is seen to be broadly social: a more educated and integrated citizenry, larger supplies of needed specialists. Second, a subject receiving more and more discussion, and some action, is the feasibility of attempting to recoup some of the benefits ordinarily captured by the persons receiving education, who thereby enhance their own value in labor markets. The "Yale scheme," by which repayment of educational expenses is a function of the post-university income earned by the graduate, is an actual attempt. The practice in many states of charging higher tuition at state university campuses than at state or community college campuses (where the differential is not entirely due to costs) is a real, if indirect, attempt at the same thing.

The problem with the Yale type of approach for financing career redirection programs is, as we have seen, that both voluntary and involuntary career-changers are likely to experience a drop in income. To lower the value of their return even more by assessing their incomes for services received would discourage the very process the program was established to promote.

It might be possible to base user charges on the assets possessed by the redirector at the time of his decision. That approach, however, raises all the problems of ascertaining values of personal assets, the problem of treating illiquid assets such as houses that predominate in the portfolios of people of modest means, community property considerations, and the like.

Three principal kinds of proposals for financing mid-life redirection schemes have been advanced: (1) that the funds come from general revenues, (2) that the funds come from payroll taxes, usually with the proviso that both employers and employees contribute, and (3) that the financing emerge from the implicit reserves built up by workers in the form of pension rights, unemployment compensation rights, vacation and sick leave accrual, disability resources, etc.

On the first proposal, we can say little of interest. Like a great many other public programs, redirection services would use revenues collected in a moderately progressive fashion (because of federal and, increasingly, state dependence on graduated income taxes as mainstays) to pay benefits that have an unknown incidence in terms of the socioeconomic status of the beneficiaries. To date, public funding for released time educational endeavors is available only to school teachers, college professors, and some higher-level civil servants.

A rather interesting variant proposal in this category is that the funds to support mid-life career redirection, at least in the long run, should be drawn from such competing uses as support of higher education, public manpower training, and training carried on in business enterprises. Doing so, it is argued, would permit a more effective sequencing of training into personal work histories. The contention here is that redirection programs are a substitute for the others and, if the financial mechanism used is the voucher scheme we discussed above, the resources would find their way back to those institutions but in a more efficient pattern, since they would then reflect user calculations as to the best deployment in terms of timing and type of institution. That is, the second-chancers would "spend" their vouchers at schools or with providers of OJT.

Another subproposal, connected to the concept of general revenues as a source, derives from the idea of the educational drawing-right, according to which every person is eligible for, say, two years of education that he or she can use at any point in life. (See Carnegie Commission, 1973a; Cartter, 1973.) Offsets to finance the program would come from reductions in the deductibility of educational expenses in the federal and state income tax.

Dresch (1973) has proposed a Human Investment Fund that would become available to all people at age 18 with drawing-rights up to about $10,000. To draw on the fund the citizen must, before his or her 25th birthday, declare an intention to participate; thereafter the citizen is taxed at a rate of, say, 6 percent for 30 years, and may draw on the fund at any time for broadly defined human-capital-forming purposes. No one would pay in more than 120 percent of the amount he used, however. The difficulty with this approach from the standpoint of the second-chancer is that, almost by definition, a young person of 18 or even 25 can hardly anticipate the need for a second chance. The scheme would not attract enough young contributors to match the withdrawals by the mid-life changers, who will have short payback periods and, probably, reduced incomes.

Striner (1973) and others (e.g., Carnegie Commission, 1973b; Work in America, 1972) have proposed a payroll tax similar to the French scheme for paid educational leaves (see Chapter 8). Koleda (1973) criticizes these schemes mainly from the standpoint of their costliness. The $6 billion needed to retrain one million workers (at 1972 prices) would require an increase in the payroll tax bite of from 10.8 to 12.2 percent. Given that payroll taxes are regressive to begin with, and that paid educational leave would appeal only to certain kinds of workers (those who could benefit from and are comfortable with education), the joint incidence of taxes and benefits might form a very peculiar pattern.

Gosta Rehn (1972), of the Organization for Economic Cooperation and Development, has proposed "one integrated system for financing all periods of non-work and providing a high degree of interchangeability, to be established instead of the present systems for youth education, adult studies, vacations and retirement." The scheme essentially integrates all of the various rights accumulated by a worker—vacations, unemployment compensation, sick leave, retirement credits, disability insurance, even reductions in the workweek—with a sufficient tax on employers, to cover the needs for income maintenance during nonwork periods. Everyone would also be guaranteed a minimum pension at, say, 65 and minimum protection against disablement.

Cartter (1973) has embellished that plan by adding a payroll tax surcharge, as in the Dresch scheme, so that workers build up credits over time that can be used for educational purposes or, if unused, could be transferred to finance early retirement or to enrich Social Security payments. Cartter claims that corresponding reductions in unemployment compensation reserves, public assistance for employables, manpower training, and veterans' educational benefits would be possible.

Koleda (1973) points out two objections to these sorts of schemes. They assume, first, that Social Security is similar to private insurance schemes that involve vesting in the amounts paid in. But in the educational leave proposals all people are taxed, but only those who want to use time released from work for self-investment can draw on their funds. People who merely want to learn oil painting as a cultural pursuit, or simply loaf or go fishing, must wait many years to reap the rewards of their forced savings. Second, the self-selection of contributors assumes, as we have mentioned, a kind of foresight unlikely to be present in young workers. To tie a second-chance loan bank into the Social Security system, according to Koleda, makes no logical sense.

In reviewing all the plans that incorporate integration with the Social Security system, the one feature that appears to make the most logical and administrative sense is the provision that, in any across-the-board lowering of retirement age, the contributor be given the option of taking a portion of "early retirement" in mid-life. He is thereby given more personal control over the time pattern of work-study-leisure. People could trade off benefits used in mid-life for redirection or upgrading against later years of leisure.

ADDITIONAL RESEARCH RECOMMENDATIONS

We have identified a number of other topics in which we believe new research is both urgent and promising. Some are connected with worker dissatisfaction and career aspirations. In reviewing the literature on this subject, we were struck with the disinclination of writers to use modern multivariate estimation techniques to isolate the effects of variables of interest. With imaginative integrations of cross-sectional and longitudinal data bases, it should be possible to gauge the influence of such factors as age, generation, occupation, status, and social background on various components of job satisfaction and on the nature of the desire for career alternatives.

The specification of training techniques appropriate for mid-life redirectors would also benefit from research that attempted to blend cohort and cross-sectional data bases. Broad-based empirical research of this kind and individual experiments can combine to improve knowledge of retraining methods suitable for various categories of workers; at present our knowledge is heavily weighted toward techniques appropriate for assembly line operatives.

Beyond calling for general improvement in manpower-needs forecasting—probably a call into the void until more adequate theoretical models and more comprehensive data bases are developed—we point out the potential usefulness of better information on the costs of career switching. More research on actual cases of career redirection and more imaginative manipulation of data now on hand could provide better understanding of those costs.

The most glaring research gap in the literature that treats actual training and education programs for adults pertains to employer-sponsored and university-based programs. More systematic evaluation using standard benefit/cost analysis procedures would be helpful. In addition, for the employer-sponsored programs, two questions arise:

- How receptive might employers be to the idea of accepting *new* employees in the mid-life age range into their ongoing training programs?
- How feasible would it be to use employer-managed programs to facilitate career redirection of employees *within* organizations (at least the larger ones)?

Finally, we discovered we need much better information on the pervasiveness, strength, and effects of employer discrimination against the older worker. Without this knowledge, potential policy remedies cannot be adequately assessed

SOME CONCLUDING THOUGHTS

Career redirection in mid-life appears to be a desire that people often express but seldom act on. The costs—economic, social, psychological—required to effect a radical alteration in vocation appear to be decisively discouraging for most people. Whether a new public program can lower those costs sufficiently to encourage a good deal more career switching must remain unknown until the completion of the kinds of research we recommend in this chapter. And whether enhanced redirection opportunities would significantly reduce the discontent, frustration, and alienation discussed in the opening chapter must also remain indeterminate pending evaluation of the experimental programs we propose.

What seems probable is that mid-life career redirection programs, especially if well publicized and promoted upon their establishment, would begin to create their own demand. But cautious skeptics may be forgiven for asking whether that surfacing desire for redirection should be regarded as deep-seated and important, or as superficial and frivolous. The ultimate answer, one may suppose, rightfully depends on the characteristics of the people who come forward to take advantage of the program. At the two extremes, they may include severely disadvantaged workers who previously saw no hope of escaping what looked like an inexorable fate, and privileged but restless professionals and executives becalmed in middle-age doldrums. One's judgment on the outcomes, and thus on the development of new program initiatives, must depend ultimately on one's political and ideological position.

At the very least, the situation needs a public airing. It would be socially salutary to open up wide-ranging discussions of the numbers and kinds of people who feel trapped in their current jobs, what it would take to free them, and what they could reasonably expect to gain from various redirection programs. We hope that this report will be a modest initial contribution to that discussion.

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